

A new survey of cool supergiants in the Magellanic Clouds

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April 2, 2015

ABSTRACT

Aims. In this study, we conduct a pilot program aimed at the red supergiant population of the Magellanic Clouds. We intend to extend the current known sample to the unexplored low end of the brightness distribution of these stars, building a more representative dataset with which to extrapolate their behaviour to other Galactic and extra-galactic environments.

Methods. We select candidates using only near infrared photometry, and with medium resolution multi-object spectroscopy, we perform spectral classification and derive their line-of-sight velocities, confirming the nature of the candidates and their membership to the clouds.

Results. Around two hundred new RSGs have been detected, hinting at a yet to be observed large population. Using near and mid infrared photometry we study the brightness distribution of these stars, the onset of mass-loss and the effect of dust in their atmospheres. Based on this sample, new a priori classification criteria are investigated, combining mid and near infrared photometry to improve the observational efficiency of similar programs as this.

1. Introduction

When stars with masses between ~ 8 and $\sim 25 M_{\odot}$ deplete the hydrogen in their cores, they quickly evolve away from the main sequence to the cool side of the Hertzsprung-Russell diagram, becoming red supergiants (RSGs). Evolutionary models indicate that this change happens at almost constant bolometric luminosity. Therefore the decrease in temperature has to be compensated by a rapid and very significant expansion of the atmosphere, which reaches a radius in the range of 400 to 1500 R_{\odot} .

The age range for stars in the RSG phase goes from 8 Myr to 20 Myr (Ekström et al. 2013). All RSGs are thus young stars, associated with regions of recent star formation. However, the nature of the initial mass function constrains the number of stars able to evolve into RSGs: Clark et al. (2009a) estimated that a cluster must have a minimum initial mass approaching $10^4 M_{\odot}$ to guarantee the presence of 2–4 RSGs at a given time.

The RSG phase is critical to our understanding of high-mass star evolution. This phase lasts $\lesssim 10\%$ of the lifetime of a star, but the physical conditions, specifically mass loss, as a RSG will determine its final evolution. In consequence, evolutionary models for high-mass stars find a strict test-bed in the RSG phase. However, the physics of RSGs defies the limits of 1D computations, and much more complex models are needed to explain observations (Ekström et al. 2013).

The interest of RSGs goes beyond their role as evolutionary model constraints. Their high luminosity, from $\gtrsim 10^{4.5}$ to $10^{5.8} L_{\odot}$ (Humphreys & Davidson 1979), combined with the fact that their emission peaks in the near infrared (NIR) allows their observation at these wavelengths out to very large distances, even if they are affected by high extinction. Thanks to this, in the past few years several massive and highly reddened clusters have been discovered in the inner Galaxy (Clark et al. 2009b; Davies et al. 2007, 2008, 2012; Negueruela et al. 2010). As their only observable components are the RSGs, these clusters are known as red supergiant clusters (RSGCs).

Recently, Negueruela et al. (2011, 2012) searched for new RSGs in the region where the end of the long galactic bar is

touching the base of the Scutum-Crux arm (Davies et al. 2007). This region contains at least three large RSGCs, but as these works show, there are many other RSGs around these clusters, all with similar radial velocities, suggesting that they all belong to the same dynamical structure. For this search, many candidates were selected based on photometric criteria, but other late-type luminous stars, such as red giants or asymptotic giant branch (AGB) stars, have similar photometric characteristics. Therefore the only way to disentangle these populations is by looking at their spectra.

The aim of the present study is to extend our search for new RSGs to other galaxies. Contrasting extragalactic samples with those of the Milky Way will provide information about the processes of stellar formation and evolution. Also, Davies et al. (2010) showed that RSGs can be used as abundance probes, opening up a new method to study the metallicity in other galaxies. Finally, the physical characteristics of RSGs vary for different metallicities (Humphreys 1979a; Elias et al. 1985; Levesque et al. 2006; Levesque & Massey 2012), but the number of known RSGs beyond the Galaxy and the Magellanic Clouds (MCs) is very low (Levesque 2013), and there is not a complete sample of RSGs in any Galaxy, not even the relatively nearby MCs.

In this extragalactic search, our first step are the MCs, where a large RSG population has already been studied (Humphreys 1979a,b; Prevot et al. 1983; Elias et al. 1985; Levesque et al. 2006). This has the big advantage that the distances to both clouds are well established, removing part of the degeneracies that plague the studies of RSGs in the Milky Way. However, until now, only the brightest RSGs of the MCs have been studied, leaving almost unexplored the dimmer end of the RSG population and the frontier between RSGs and AGBs.

In the last fifty years many works have studied photometrically the red population of the MCs, the high-mass population, and the RSGs themselves. The most recent and exhaustive among these works are Massey (2002) and Bonanos et al. (2009, 2010). Massey (2002) surveyed the MCs in the visible, looking for high-mass stars. He found ~ 280 RSGs in the Large Mag-

ellanic Cloud (LMC) and ~ 160 in the Small Magellanic Cloud (SMC), many of them previously unknown. However, as RSGs have their emission peak in the near infrared and their high mass-loss tends to redden them, by using visible data only the less reddened and/or optically-brightest RSGs were observed.

Bonanos et al. explored the mid infrared (MIR) properties of high-mass stars in the LMC (Bonanos et al. 2009) and SMC (Bonanos et al. 2010). Using spectral classifications taken from the literature, they derived new MIR criteria to identify RSGs. Britavskiy et al. (2014) used these criteria to select a few dozen candidates in other galaxies, finding six new RSGs.

There have also been some spectroscopic surveys aimed at these populations. The first works (Humphreys 1979a; Elias et al. 1985) studied a small number of the brightest RSGs, confirming their nature. More recent works have taken advantage of the availability of large scale photometric surveys to select large numbers of candidates that can be observed efficiently using multi-object spectroscopy. Massey & Olsen (2003) obtained spectra for a statistically significant sample taken from their previous photometric survey, confirming the RSG nature of most of their candidates. Neugent et al. (2012) did a selection of RSGs and yellow supergiant (YSG) candidates using 2MASS. Of their 1949 RSG candidates, they observed 522, labelling 505 of them as "probable supergiants", as even when their apparent magnitudes and radial velocities were compatible with membership to the LMC, the authors did not perform any spectral classification.

In this work, we present a larger sample of candidate RSGs in the MCs, all of which receive a spectral classification based on intermediate-resolution spectra. We analyse the success rate of different photometric selection criteria and discuss the possibility of generating clean samples of RSGs. In addition, we take advantage of photometric catalogues to study the spectral energy distributions of all candidates and search for further selection criteria. Finally, we discuss statistical properties of the RSG population in the MCs.

2. Target selection and observations

2.1. Overall strategy

Observations were carried out with AAOmega at the Anglo-Australian Telescope as backup/filler for a longer programme aimed at the inner disc of the Milky Way during 9 nights between 2010 and 2013. The observational strategy behind this complementary program was built upon three different samples: a set of photometrically selected candidates, a group of previously known RSGs (from Elias et al. 1985; Massey & Olsen 2003) and a third group of known YSGs from Neugent et al. (2010) used as low priority targets in areas of low target density (only in the SMC, as in the LMC we constrained ourselves to an area of high target density).

The samples of already known supergiants (SGs) were added partly as a control sample to compare with our new candidates and partly to extend classification criteria and schemes from the blue and optical into the Ca II triplet range at low metallicity. This paper deals mainly with the new candidates, while the full potential of the other samples will be exploited in future publications.

2.2. Selection criteria

The recent boom in the detection of RSG rich clusters is mainly due to the availability of all-sky, near infrared data, because in this wavelength regime the peculiar extended atmospheres of

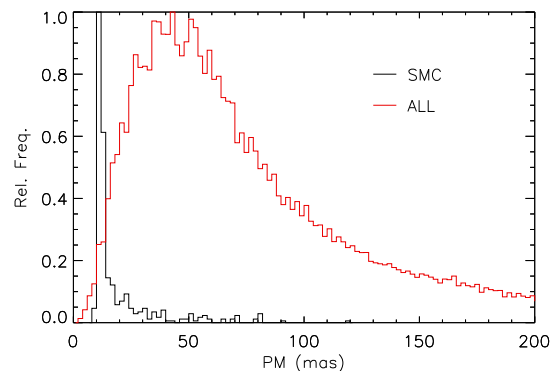


Fig. 1. Proper motion (taken from USNO-B1) relative distribution for putative RSGs of the SMC (black line) and for all the stars in the field (red line).

these stars stand out. In fact, just by using 2MASS photometry (Skrutskie et al. 2006), it is possible to define a pseudo-colour $Q = (J - H) - 1.8 \times (H - K_s)$ able to separate between blue and red stars. This parameter has been proved to be an excellent tool to pick out RSGs, as they often show values of Q similar to those of yellow stars ($Q \sim 0.2 - 0.3$). This property, combined with their unusual brightness in the K_s band, allows the definition of purely photometric filters to select this population while minimizing interlopers. These criteria, combined with spectroscopic follow-up to confirm the nature of the candidates, have been used successfully and extensively in our own galaxy (Negueruela et al. 2011, 2012; González-Fernández & Negueruela 2012) and in this work we extend their use to the Magellanic clouds.

The fact that these dwarf galaxies are not part of the Milky Way has the advantage that foreground objects are more easily filtered out, particularly if they have large measured proper motions. Background objects, in contrast with the disc of our galaxy, are scarce and fall outside the parameter space occupied by RSGs. This comes at the price of a larger distance modulus, but as RSGs are intrinsically very bright, this is not an important issue. Also, the reddening towards the clouds is relatively small, with typical values around $E(B - V) \sim 0.1$ (Soszynski et al. 2002; Keller & Wood 2006) and so the pseudo-colour Q , that relies on the assumption of a given extinction ratio between bands, will not be affected by variable or non-standard extinction laws, at least outside the most reddened sites of recent stellar formation.

With all these considerations in mind, we defined a set of selection criteria for RSG candidates as follows:

- Candidates should have $0.1 \leq Q \leq 0.4$.
- They have proper motions compatible with the MCs (see Fig. 1).
- The brightness divide between RSGs and AGBs is not well established, but RSGs show normally absolute magnitudes brighter than -8 in the K_s band. Taking into account the distance modulus to the clouds, these stars should appear brighter than $K_s = 11$.
- Lastly, to optimize the observing time, we impose a cut at $m_I = 13$ so that spectra with high enough signal-to-noise can be obtained in less than 30 minutes.

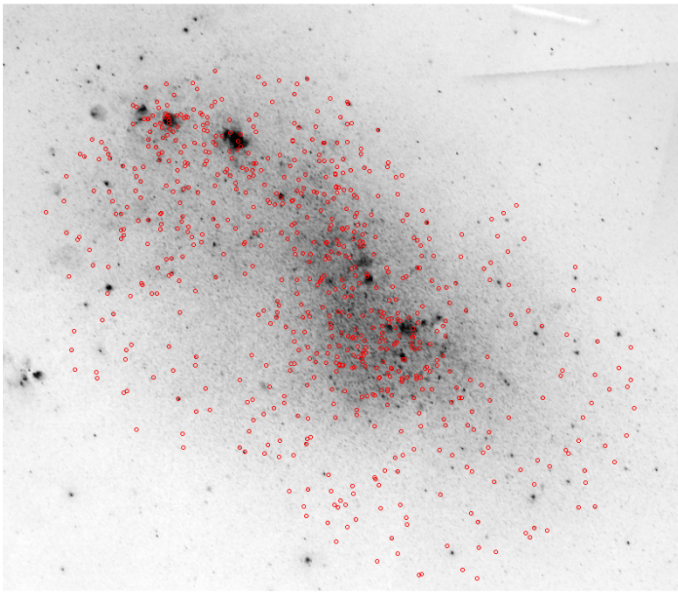


Fig. 2. Spatial distribution of targets in the SMC, over a DSS-Red image roughly $3^\circ \times 3^\circ$ in size.

2.3. Observations

While traditional spectral classification criteria for stars are normally defined over the blue end of the optical range, many works have extended them for RSGs to the wavelength range around the infrared Ca II triplet, as it contains several atomic and molecular lines of physical interest. With the fibre-fed dual-beam AAOmega spectrograph it is possible to cover both regions of the spectrum for several hundred objects in a single exposure, making it an ideal instrument for this kind of studies. As it sits on the 3.9 m Anglo-Australian Telescope (AAT) at the Australian Astronomical Observatory, it has good access to the low latitude fields of the Clouds while offering a collector area large enough to observe their RSGs in a very efficient manner.

The instrument is operated using the Two Degree Field ("2dF") multi-object system as front end, allowing the simultaneous acquisition of spectra through 392 fibres. These fibres have a projected diameter of $2''.1$ on the sky and are fed into the two arms via a dichroic beam splitter with crossover at 5700\AA . Each arm of the AAOmega system is equipped with a $2k \times 4k$ E2V CCD detector (the red arm CCD is a low-fringing type) and an AAO2 CCD controller. While the red arm was always equipped with the 1700D grating, the blue arm changed between the 580V and 1500V gratings. A summary of the configurations is offered in Table 1. However, since the projection of the spectrum from each fibre on the CCD depends on its position on the plate, it is not possible to give a precise common range for each configuration. This effect displaces the spectral range limits by $\sim 20\text{\AA}$ in the red range, $\sim 40\text{\AA}$ for the 580V grating in the blue range, and $\sim 20\text{\AA}$ for the 1500V grating in the blue range.

The nominal resolving powers ($\lambda/\delta\lambda$) at blaze wavelength for the 580V and 1500V gratings are 1 300 and 3 700, while the 1700D grating reaches $R \sim 10\,000$ around the Ca triplet, allowing the measurement of line-of-sight velocities with enough precision for our purposes.

The main body of the SMC was covered with two pointings (Fig. 2) that were observed using 8 different configurations, for a total of 1448 spectra. Only one pointing was devoted to the LMC (Fig. 3), visited with two configurations for a total of 464 spectra.

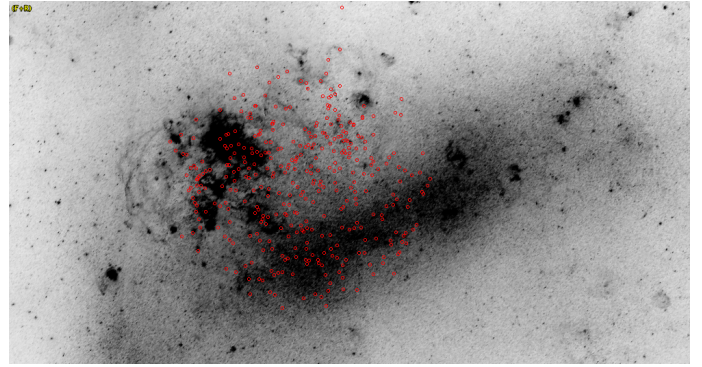


Fig. 3. Spatial distribution of targets in the LMC, over a DSS-Red image roughly $4^\circ \times 2^\circ$ in size. As can be seen, all the targets (from a single AAOmega pointing) are distributed over a region that covers less than 50% of the galaxy.

As a subset of targets were observed using several configurations and some spectra did not reach usable S/N, our sample amounts to a total of 617 individual objects for the SMC, and 314 for the LMC.

2.4. Data reduction

Data reduction was performed using the standard automatic reduction pipeline 2dfdr as provided by the AAT at the time. Wavelength calibration was achieved with the observation of arc lamp spectra immediately before each target field. The lamps provide a complex spectrum of He+CuAr+FeAr+ThAr+CuNe. The arc line lists were revised, and only those lines actually detected were given as input for 2dfdr. This resulted in very good wavelength solutions, with rms always < 0.1 pixels.

Sky subtraction was carried out by means of a mean sky spectrum, obtained by averaging the spectra of 30 fibres located at known blank locations. The sky lines in each spectrum were evaluated and used to scale the mean sky spectrum before subtraction.

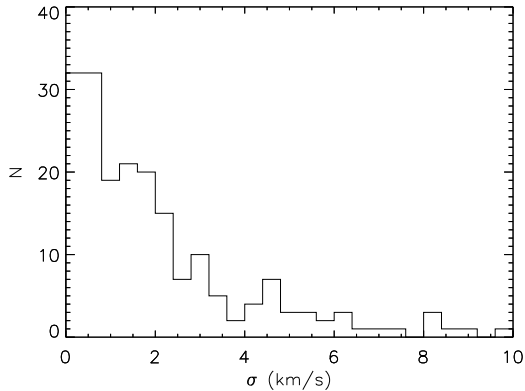
2.5. Measuring v_{los}

We measured velocities along the line of sight by calculating the correlation function of our observed spectra with a suitable template of known non-cosmological redshift. For late-type stars as the ones here studied, a high resolution spectrum of Arcturus is normally used, but while for the part of the spectrum with $\lambda > 1\text{ }\mu\text{m}$ this is an adequate standard, as the overall shape of the spectrum does not change dramatically, this is not the case for the wavelength range around the Calcium triplet, as in this region the spectrum of successive populations will be dominated by the Paschen series, then the Calcium atomic lines and lastly TiO molecular bands. This results in a rather dramatic change in typology, making it very difficult to find a one-size-fits-all standard to use as comparison.

We have chosen instead to use a whole family of MARCS synthetic spectra taken from the POLLUX database (Palacios et al. 2010). For each observed spectrum, the most similar model is selected doing a first pass over the whole set of synthetic spectra using very rough increments in velocity ($\Delta v_{\text{los}} = 10\text{ km s}^{-1}$) and once the best match is selected, a refined value of v_{los} is measured calculating the correlation between observation and model using 0.3 km s^{-1} increments. These measured velocities where

Table 1. Summary of the observations

Year	Nights	Blue arm			Red arm		
		Grating	λ_{cen} (Å)	Range (Å)	Grating	λ_{cen} (Å)	Range (Å)
2010	3	580V	4500	~2100	1700D	8600	~500
2011	2	1500V	4400	~800	1700D	8700	~500
2012	1	1500V	5200	~800	1700D	8700	~500
2012	2	580V	4800	~2100	1700D	8700	~500
2013	1	580V	4800	~2100	1700D	8700	~500

**Fig. 4.** Histogram of the standard deviation for the measured v_{los} of repeated observations.

later transformed into the heliocentric system of reference using the *rvcorrect* package from IRAF.

Using stars with repeated observations, we can obtain an estimate of the total uncertainty in v_{los} , including measuring errors, wavelength calibration, astrophysical noise, etc. As can be seen in Fig. 4, the typical velocity dispersion is around 1.0 km s^{-1} , and we can assume a conservative 99% confidence interval for our measurements of v_{los} at 4 km s^{-1} . Another source of dispersion that needs to be taken into account are possible systematic effects between different observing runs. Using all the available stars (main program and SMC/LMC backup) we checked for these, as we have repeated measurements for several objects. Systematic differences in v_{hel} were all below 1 km s^{-1} and have not been corrected, as some of the fields (particularly in the LMC) have very low redundancy and hence is difficult to measure and correct properly for this effect.

In this article we will only use velocities in a relative sense, to discriminate between populations from the MCs and from different Galactic components. Being so, we only worry about the internal consistency of the calibration, without the need of an anchor point to check for systematics. In any case, as can be seen in Fig. 5, the derived systemic velocity for the SMC is in very good agreement with the values from the literature, hinting at a very low systematic residual, if any. This is not the case for the LMC. Since we are not surveying the totality of the galaxy, we are heavily biased by its internal dynamic structure, and cannot readily compare with an "average" galactic velocity.

3. Results

3.1. Spectral classification

To classify the observed stars we used spectra obtained with the blue arm, as they cover the wavelength range where classical classification criteria are defined (Morgan et al. 1943; Fitch & Morgan 1951; Keenan & McNeil 1976; Keenan & Wilson 1977; Keenan & Pitts 1980; Morgan et al. 1981; Turnshek et al. 1985; Keenan 1987). These criteria were complemented with our own secondary indicators, whose variation with spectral type (SpT) and luminosity class (LC) we derived through visual comparison between the spectra of known standards. These were taken from the Indo-US spectral library (Valdes et al. 2004) and the MILES star catalogue (Sánchez-Blázquez et al. 2006), and degraded to our spectral resolution (roughly a FWHM of 2.1 Å) when needed.

Humphreys (1979a) reported that the metallicity differences between the Milky Way (MW), the LMC and the SMC do not change the behaviour of the atomic line ratios and other spectral features used in the spectral classification of RSGs. Therefore, it is possible to use MW standards as comparison, and the same criteria developed for RSGs in one galaxy are applicable to the others, as long as they are based on line (or band) ratios and not line (or band) strengths. With our extended sample, we can confirm that there are no apparent differences in the spectra of RSGs from both clouds, even considering that our sample covers a rather broad spread in spectral types. In consequence, we adopted the same criteria for both MCs, using Galactic standards as comparison.

We have performed our own classification for all the stars observed, even those with early SpTs (most of them part of the YSG control sample). As this work centres around RSGs, we will only discuss the detailed classification of stars with spectral type later than G0. This also avoids the metallicity effects over the classification of earlier spectral types, that is more heavily affected by this parameter (cf. Evans & Howarth 2003). We have also found some carbon and S-stars among our targets, but these are easily identified due to their very characteristic spectra. As these are interlopers in our sample of new candidates, we did not perform any further analysis on them.

Spectra observed with the 580V grating cover roughly from 3730 Å to 5850 Å (the exact limits depend on fibre position), but the S/N blueward of $\sim 4500 \text{ Å}$ is very low for many of our stars (this is not the case for the earlier spectral types). In consequence, most of our classification criteria lie between 4500 Å and 5850 Å .

The main LC indicators we used are the ratios between the lines of the Mg I triplet (5167 Å , 5172 Å and 5184 Å) (Fitch & Morgan 1951). From G0 to \sim M3, Mg I 5167 is clearly deeper than the other lines for LC I. These ratios change slowly with SpT, but this variation is not enough to complicate the identifica-

tion of mid- and high-luminosity SGs (Iab, Ia). There are other spectral features that can be used to confirm the LC: the ratio of Fe I+Y II blend at 4376 Å to Fe I at 4383 Å (Keenan & McNeil 1976), the ratio between the blended Fe I lines around 5250 Å and the Ca I+Fe I+Ti I blend at 5270 Å (Fitch & Morgan 1951) and the ratio of Mn I 5433 Å to Mn I 5447 Å.

As the Balmer lines decrease in strength with SpT while at the same time metallic lines become more intense, to identify G or earlier subtypes we used the ratio of the H β and H γ transitions to other nearby metallic lines. For those stars with enough S/N in this region, we also compared H γ to the CH G–band (from 4290 to 4314 Å): F stars have deeper H γ , at G0 H γ and the G–band have similar depths and from G0 to mid G, the G–band becomes dominant.

For later SpT, the shape of the metallic lines changes due to the appearance of TiO bands. The sequence of M types is defined by the depth of these bands (Turnshek et al. 1985), but their effects are noticeable from K0 onwards. Starting at K1, a TiO band rises at 5167 Å, changing the shape of the continuum between Mg lines. We used this change to obtain the spectral type for stars between K1 and M2. However, at ~M3, the band is so deep that the Mg lines are not useful any more. This is also the case for the other indicators mentioned before, whenever there is a band close to them.

The effect of the TiO band at 5447 Å over two lines, Mn I 5447 Å and Fe I 5455 Å, can be used to obtain the subtype of K stars, and the atomic lines and molecular bands between 5700 to 5800 Å, to obtain the spectral type for mid and late M stars (Mn I 5718 Å, Mn I 5718 Å, V I 5727 Å, VO 5737 Å, TiO 5759 Å, Ti I 5762).

For spectra observed with the 1500V grating, we had to resort to different criteria, but the methodology was the same. We identified the LC using the following ratios from Keenan & McNeil (1976): Fe I+Sr II 4216 Å to Ca I 4226 Å, Fe I+Y II 4374.5 Å to Fe I 4383 Å and Fe I 4404 Å to Fe I+V I+Ti II 4409 Å. In all cases, the ratio is ~1 for LC I and $\gg 1$ for less luminous stars (LC III – V).

SpT can be evaluated by comparing H δ at 4102 Å and H γ at 4341 Å with nearby metallic lines. For early-G types the depth of H γ is similar to that of the G band, while for F or earlier types, H γ is clearly dominant. Even if the Fe I 4347 Å, Fe I+Cr I+Ti II 4344 Å and Mg I+Cr I+Fe I 4351 Å lines vary with LC, they can be used to determine SpT, because we can constrain this parameter with other indicators.

We also used the ratios between Fe I 4251 Å and Fe I 4254 Å, Fe I 4280 Å and Fe I+Ti I 4282 Å, and the behaviour of the lines Fe I+Co I 4579.5 Å, Fe I 4583 Å and Fe I+Cr I+Ca I 4586 Å to confirm the spectral subtypes in the later G and K sequences.

Despite the fact that the first TiO bands appear already for K type stars, it is only in redder spectral regions. In the spectral range considered here they are not noticeable until early M subtypes, and no TiO bands are clearly visible before ~M3. To classify the early M stars we used the spectral range from 4580 to 4590 Å and from 4710 to 4720 Å.

In order to facilitate calculations, we parametrized SpT and LC over a linear scale, assigning integers to each type and class. In those cases in which we doubt between two consecutive classifications, we assigned the intermediate half-integer value.

Even though the term RSG is normally applied to SGs with types K or later, we have also included G stars for two reasons: firstly, RSGs are intrinsically variable and some can change their type from early K to late G. Secondly, at lower metallicities,

Table 2. Repeatability of our spectral and luminosity classification using stars with multiple observations.

	$\overline{\Delta(LC)}$	$\overline{\Delta(SpT)}$	Number of stars
2010	0.4	1.2	99
2011	0.4	0.8	101
2012	0.4	0.9	129
Weighted average	0.4	1.0	329

the typical SpT of a RSG becomes earlier. In consequence, as Levesque (2013) noted, if we exclude G stars we are losing part of our target population (evolved high mass stars), specially for low metallicity galaxies such as the SMC. Therefore we have used all the stars with SpT G0 or later for subsequent calculations.

There is some overlap between different SMC observations. As we performed the classification for each of the spectra of these redundant targets independently, we can use them to test the internal coherence of our classification scheme. The final SpT and LC for these stars were obtained by averaging and using the S/N of each spectrum as weight, rounding the final figure to the closest entire or semi-entire number.

The mean differences between the spectral classifications of these repeated targets are given in Table 2. As can be seen, the differences in both LC and SpT are of the order of the classification step, as long as we take into account that we assigned semi-entire SpT only in those cases where the classification between two consecutive subtypes was not clear.

Attending to the obtained differences in our classification, we have assumed an uncertainty of ± 1 in SpT and ± 0.5 in LC for all our stars, even if there are no repeated observations for the LMC, as the observing conditions and the classification scheme were the same for all fields.

Of all the stars with more than one observation, there are a few that present large discrepancies between epochs. Even if the numbers are compatible with normally distributed errors, we revised all these spectra to check the source of these differences. In many cases it is due to one of the spectra having low S/N. In these cases, as our final classification was done using the S/N as weight, the final result will be dictated by the high S/N classification. Other stars have good S/N in all their spectra, and differences arise due to the lack of enough standards for some spectral subtypes and luminosity classes. This is the case of many G stars.

A high fraction of RSGs are known to be long period variables (Wood et al. 1983). These variations reflect not only on their brightness, but also on their spectra and radial velocities. Therefore, among many of our repeated observations, stars will appear with different SpT, LC and radial velocities from epoch to epoch. These classifications have also been averaged. As much of what is discussed in later sections deals with single epoch photometry, there is no use on retaining several classifications for the same object, and by averaging we ensure that the final values for SpT and LC will not be at any of the extremes, increasing the chances of better agreement with the asynchronous photometric measurements.

However, for all those stars showing variability, we retain the different classifications, while for non-variable objects a single value is listed. We have considered to be variable all those stars which have a difference in SpT or LC, non attributable to other factors, larger than twice the uncertainty interval: 2 subtypes or 1 luminosity subclass.

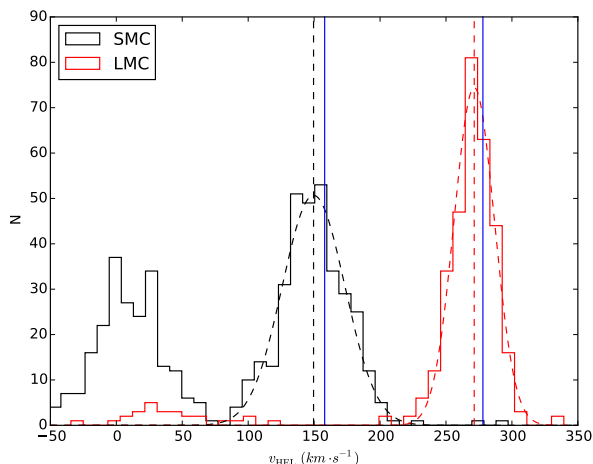


Fig. 5. Observed heliocentric velocities for all the sources in the LMC (red) and SMC (black). Over-plotted with dashed lines are Gaussian fits to the distributions, and their μ is marked with a vertical dashed lines. For comparison, the blue vertical lines denote the systemic velocities for the clouds (taken from Massey & Olsen 2003).

Finally, we want to stress that our spectral classifications are merely morphological. When we classify an object as a supergiant, we are simply stating that several significant spectral features in its spectrum look more like those of supergiant standards than those of giant standards. We are not making any assumption about the physics of the stellar interior. Even though there is a generally excellent correlation between spectral type and physical characteristics, this does not always have to be the case. For example, recently Moravveji et al. (2013) have presented evidence that α Her, an M5 Ib-II MK standard and anchor point of the classification system (because it is the high-luminosity standard with a later spectral type), is an AGB star of only $\sim 3 M_{\odot}$.

3.2. Membership to the clouds

The velocity distribution of our potential SMC sources can be accurately modelled by a Gaussian distribution with parameters ($\mu = 149.6 \text{ km s}^{-1}$, $\sigma = 23.7 \text{ km s}^{-1}$), while for the LMC these become ($\mu = 271.4 \text{ km s}^{-1}$, $\sigma = 15.3 \text{ km s}^{-1}$), as can be seen in Fig. 5. Based on this, an initial clean-up of the sample can be obtained using hard cuts in v_{hel} , using $\pm 3\sigma$ as threshold. Yet the populations from the MW and the MCs cannot be separated based purely on dynamical criteria, as there are halo stars that show velocities compatibles with those of the clouds. This can be seen in Fig. 6, where the sources are colour labelled according to their LC. Both for the LMC and the SMC there are stars of classes III to V within the dynamical envelope of the clouds but with apparent magnitudes incompatible with their distance modulus and spectral classification. The only way to weed out these interlopers is through detailed spectral tagging.

On top of these MW populations, the transition from RSG to AGB is smooth, and so both very luminous AGBs and Carbon stars will appear in photometrically selected samples. Although these will indeed be part of the clouds, in order to ensure a pure sample of SGs, it is again mandatory to perform a good spectral characterization of the sources. Using both v_{los} and the spectral classification, we can perform the last cleansing of the sample in order to produce a catalogue of SGs in the MCs. The results from the different stages of this process are shown in Table 3.

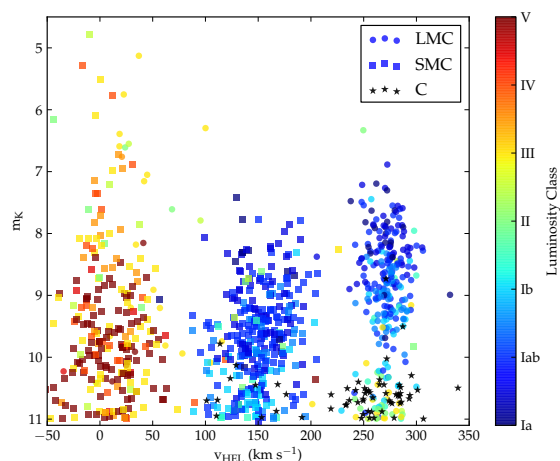


Fig. 6. Plot of the apparent magnitude versus the v_{hel} for the observed sources. Squares mark candidates for the LMC, circles do so for the SMC and stars are left for Carbon stars. The colour coding denotes LC, see Sect. 3.1 for an explanation of the chosen parametrization.

The final sample contains a total of 160 SGs in the SMC and 123 in the LMC. Of these, 70% are previously unknown SGs.

4. Discussion

4.1. Selection efficiency and interlopers

In Sect. 3.2 we show that only the combination of v_{los} and spectral classification can separate sources from the MW and the MCs. Once this filtering has been done, we can proceed to analyse the efficiency of our selection criteria.

As can be seen in Table 3, of the 585 new candidates, 48% turned out to have LC Ib-II or brighter, and hence can be classified as SGs. The ratio of success for our selection is of 53% for the LMC and 45% for the SMC. This small difference arises mostly due to the fact that we only covered the LMC with one configuration aimed at its main body, while for the SMC we also sampled the outskirts, where the relative density of bright interlopers is higher.

Most of these interlopers turn out to be MW disc population, along with some high velocity halo stars. The majority of these could be removed by the application of a cut on proper motions based on a catalogue with more precise measurements than USNO-B-1. Proper motions from *Gaia* will allow samples almost clean of MW populations. Among MC interlopers, carbon stars are particularly conspicuous. At low magnitudes, they are the main contaminants in the LMC. Some of these stars may be easily filtered out by looking at their colours, as for the MCs they reach $(J - K_S) > 2$, while in our sample no SG is redder than $(J - K_S) \leq 1.6$. But since typically, carbon stars will have $(J - K_S) > 1.4$ (Cole & Weinberg 2002), there is some overlap between both populations, and much more so for fields under heavier extinction, where the SG population will be displaced into the red. This is the case too for mid-infrared colours, where the overlap is even more complete, and from having similar colours, it follows that carbon stars and RSGs will also show similar values of Q . Being so, it is expected that these stars will appear in any survey aimed at RSGs with enough depth to reach the low luminosity end of the Ib population, as can be seen in Fig. 7: the fraction of recovered SGs drops below $M_K = -9$,

Table 3. Filtering of the original sample of candidates according to several criteria. In parenthesis are the carbon stars with v_{hel} not compatible with the clouds and the number of previously undetected SGs.

Cloud	Total	v_{los} filter	LC filter	Carbon	Final sample
LMC	237	203	125	48 (3)	123 (70)
SMC	400	179	162	10 (0)	160 (128)

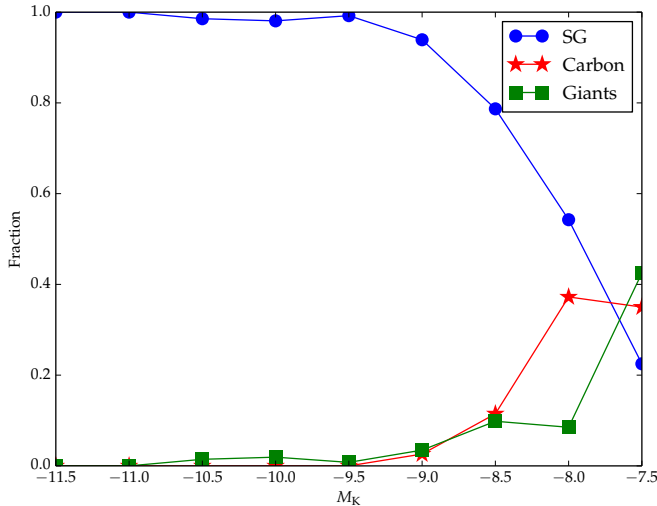


Fig. 7. Fraction of the final sample for both clouds made up by SGs (LC Ib-II or more luminous), giants (LC II or less luminous) and carbon stars. Distance moduli are taken to be 18.48 for the LMC and 18.99 for the SMC, from Walker (2012) and Graczyk et al. (2014)

reaching a point at $M_K \sim -8$ where in fact interlopers dominate the sample.

4.2. Completeness of the sample

An item of utmost importance when considering a sample is that of completeness. In our case, this is delimited by the most restrictive of the criteria outlined in Sect. 2.2: the cuts in Q . As has been shown, introducing hard thresholds in Q leads to a low proportion of interlopers in the sample, but at the same time there is the chance it might leave out some SGs too. We can check this by comparing our *a priori* photometric selection with other similar programs. Of those available, the most complete and deep is Boyer et al. (2011), with the added advantage that their classification is based on the NIR and MIR photometry of their sources.

The results of our filtering applied to the objects from Boyer et al. (2011) can be seen in Fig. 8. At face value, this plot seems to indicate that we are missing a large fraction of the potential RSGs: of more than 3000 putative candidates flagged by Boyer et al. (2011) in the SMC, we have only observed around 200. But there are a couple of points that we have to take into account: firstly, stars labelled as RSGs in Boyer et al. (2011) extend down to $m_{K_s} = 12.5$, a magnitude that translates to $M_{K_s} \sim -6.5$ at the distance of the SMC, hardly compatible with what is expected for this population (see, for example, Elias et al. 1985); secondly, the spatial extension of the study conducted by Boyer et al. (2011) is much wider than ours. If we take this into account and we impose that RSGs must have $M_{K_s} < -8$, the equivalent sample from Boyer et al. (2011) is trimmed down to 479 candi-

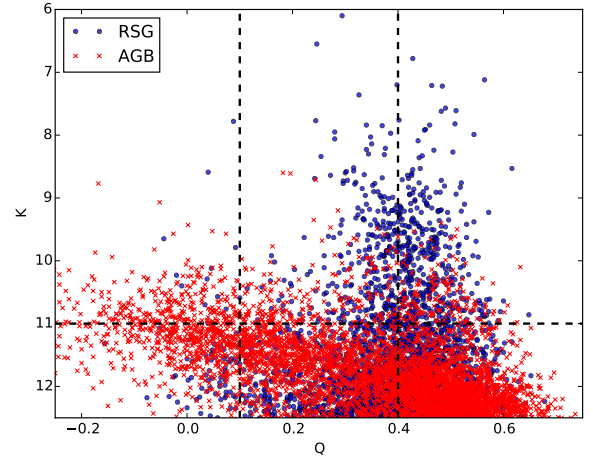


Fig. 8. Q distribution of the objects from Boyer et al. (2011), covering only the SMC. The black dashed lines mark the boundaries of our filtering scheme.

dates, of which around 200 have $0.1 \leq Q \leq 0.4$. A similar result is obtained for other photometric surveys as Massey (2002): of the 288 candidates that have 2MASS photometry, 58% pass the Q filter; and also for Groenewegen et al. (2009), as 40% of their RSGs (stars with $M_{\text{bol}} \leq -8.0$) clear our cuts. At the other end of completeness, from the 21 RSGs identified by Buchanan et al. (2006) from a pool of objects with colours and fluxes at $8 \mu\text{m}$ coherent with evolved, massive stars, 17 are picked out by our selection criteria.

As it can be seen in Fig. 8, cutting out sources with $Q > 0.4$ does a good job at removing AGBs from the sample (and late type giants, not plotted there), but at the price of also filtering out a large fraction of RSGs. While in the disc of our galaxy, where this kind of filters are mostly used, AGB and giant contamination is a serious concern, and so missing on a significant number of RSGs can be an acceptable price, in the MCs we have the added value of being able to separate a large fraction of these lower luminosity stars just by looking at their apparent magnitudes, so we need to develop finer selection mechanisms.

Beyond its completeness, we can also check if our filtering is biased towards or against given spectral types. Using the control sample, composed of SGs taken from Elias et al. (1985), Massey & Olsen (2003) and Neugent et al. (2010), as these objects were selected disregarding their Q and cover a wide range of spectral types.

As can be seen in Fig. 9, the behaviour of Q with spectral type is relatively complex, related to the variation of the intrinsic NIR colours of SGs. This is shown in Fig. 10: the change in $(H - K_s)$ with SpT is similar for giants and SGs (essentially, a temperature sequence), although the latter tend to appear redder. This is not the case for $(J - H)$, where the behaviour is markedly different; this is probably related to the fact that at shorter wavelengths,

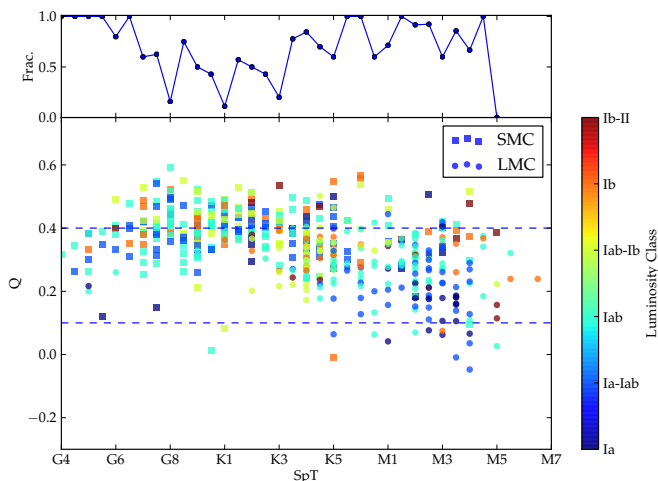


Fig. 9. Q values for the control sample. Top panel: Fraction of these that pass the Q threshold, marked with dashed lines.

the spectral energy distribution of SGs is dominated by the combined effects of dust (the interplay between scattering emission and auto-absorption; Smith et al. 2001), molecular absorption bands and H^- opacity (that drops steadily from J to H). These effects dictate the colour of the star, with a weaker dependency on its temperature.

This implies that our homogeneous filter in Q will have different a priori completeness depending on SpT. This is detailed in the top panel of Fig. 9, where we plot the fraction of SGs from the control sample that clear our filtering: while for mid-type G SGs this criterion works very well (even if the relative abundance of these objects is low), its efficiency drops as the spectral type sequence progresses; for late G and early type K SGs it can reach a rather low $\sim 30\%$ completeness. For later types the fraction of stars inside our boundaries increases more or less linearly with SpT, keeping over $\sim 75\%$, although at the very end of the M sequence our sample is too poor to draw any conclusion. This ties back with the results of Fig. 8; as we carried our test on the SMC, where the spectral type distribution works against the efficiency of our Q filtering, the comparison with Boyer et al. (2011) works as a sort of worst case scenario. Both in the MW and in the LMC the fraction of M type supergiants is much larger, and in particular in the disc of our galaxy the RSG distribution peaks around M2 (Elias et al. 1985).

This varying selection efficiency for different spectral types is of paramount importance when devising surveys for galaxies other than our own. It has been shown that the average spectral type of the RSG population depends on metallicity (Humphreys 1979a; Elias et al. 1985; Levesque et al. 2006; Levesque & Massey 2012) and so as Z decreases, more RSGs will have earlier types, moving slowly into the region where selection completeness is worse. Although these effects are very difficult to evaluate a priori just based on photometric data, one clear solution is to just open the accepted Q range. As we can see in Fig. 8, this would include in the sample an increasingly large number of interlopers; while for the MCs it would be possible to weed them out, this is not the case in other fields, galactic or extragalactic, and hence the need to develop new strategies arises again.

The influence of dust in the variation of Q is further supported by looking at the MIR colours of these stars, that in WISE (Wright et al. 2010) show $(W1 - W4)$ excesses indicative of dust emission. In fact, $(W1 - W4)$ turns out to be a good indicator

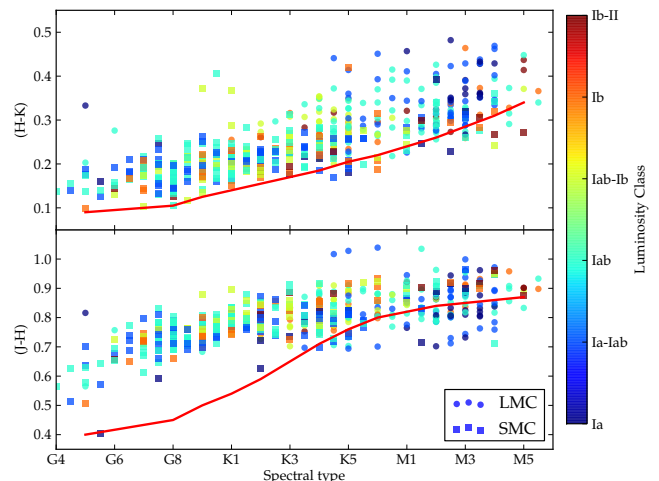


Fig. 10. Evolution of the NIR colours for our control sample as a function of spectral type. Red solid lines mark the intrinsic colours for giants of the same type, taken from Straižys & Lazauskaitė (2009).

of spectral types in our sample, and it is possible to refine the selection scheme on Q using this property. As can be seen in Fig. 11, there is a linear relation between Q and $(W1 - W4)$, and so we can define an estimation of Q based on MIR colours by $Q_{\text{MIR}} = 0.39 - 0.06 \times (W1 - W4)$. Using this, and whenever WISE photometry is available, we can derive a Q_{MIR} to compare with Q . For our sample, the standard deviation of $Q - Q_{\text{MIR}}$ is 0.1, and so it is possible to define a threshold to attain a given completeness. This selection scheme has an important caveat: most late giants will fall within the same range as SGs, and while this is not a problem for other galaxies, where simple cuts in magnitude can weed out these stars, in the MW this strategy is not feasible.

Beyond checking our completeness, we can use these cross-matches with other surveys to evaluate their selection efficiency. This is summed up in Table 4. In this table, we detail those objects in common between the listed surveys and our sample of new RSGs, and whether we confirm their SG nature in the case of photometric surveys or we have discrepant classifications in case of spectroscopic surveys. Two effects mediate the numbers in this table: firstly, we have removed the control sample from this calculation, as these objects are selected a priori knowing their stellar nature. Secondly, the spatial overlap between our survey and those in the table is not complete, and this fact limits the number of common targets.

4.3. Photometric properties of the sample

In Fig. 12 we plot a CMD of the confirmed SGs in this work. As can be seen, using the criteria outlined in Sect. 2.2 we obtain a set of candidates that, while overlapping with previous works at bright magnitudes, allow us to extend the search for SGs to low brightnesses, in a region of the CMD relatively unexplored. Some of the candidates have already been spectroscopically confirmed as SGs (Table 4), but for homogeneity reasons and due to the variable nature of the spectra of RSGs, they were left as candidates and observed anyway.

Beyond comparing with previous studies, a homogeneous sample this size can be exploited to study the photometric behaviour of RSGs. To do so we combine the photometry coming from 2MASS and WISE (see Table 5 for a summary of the wave-

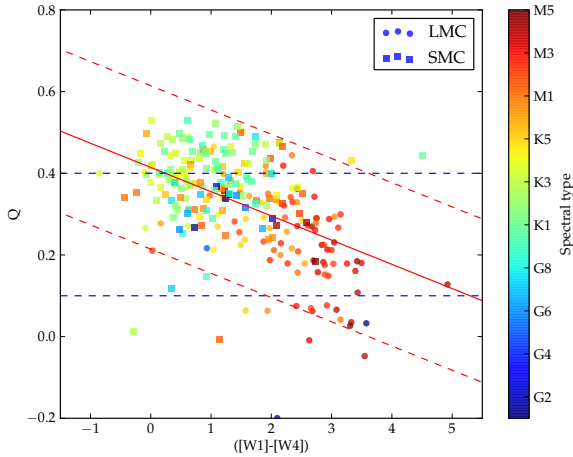


Fig. 11. Pseudo-colour Q as a function of MIR excess for our control sample. The solid red line corresponds to the best linear fit, while the dashed lines denote the 2σ threshold, that contains 95% of the SGs.

Table 4. This table summarises the overlap between our sample of new candidates and other works. In the upper panel, we show the objects in common with other purely photometric surveys, and the number of them that we have confirmed spectroscopically as SGs. In the lower panel, we perform the comparison for spectroscopic surveys, indicating the number of SGs and other populations in common. In parenthesis are indicated those cases in which our classification contradicts that of the original work.

Photometric surveys			
Paper	Cloud	Candidates	Confirmed
Westerlund et al. (1981)	LMC	39	29
Prevot et al. (1983)	SMC	36	33
Massey (2002)	SMC	8	4
Massey (2002)	LMC	6	5
Groenewegen et al. (2009)	SMC	7	5
Groenewegen et al. (2009)	LMC	4	1
Boyer et al. (2011)	SMC	108	99
Spectroscopic surveys			
Paper	Cloud	SGs	Other
Elias et al. (1985)	SMC	18	0
Elias et al. (1985)	LMC	7	0
OSK1998 ¹	LMC	3	0
Massey (2003)	SMC	0 (1)	7 (6)
Buchanan et al. (2006)	LMC	0 (1)	0
Neugent et al. (2012)	LMC	28	8

References. (1) Oestreich & Schmidt-Kaler (1998)

length coverage of these surveys). It is worth noting that these are both single epoch surveys, and a fraction of the stars on our sample (AGBs, RSGs, etc.) are expected to be variable. This implies that not only photometry and spectral classification will be asynchronous, but also different bands have been observed at different epochs. Yet this variability is known to decrease in amplitude with wavelength, and as it is discussed in Robitaille et al. (2008) the most extreme variables are reduced to amplitudes of a few tenths of a magnitude in the MIR. Even so, some dispersion due to this effect is expected in colour-colour and colour-magnitude diagrams.

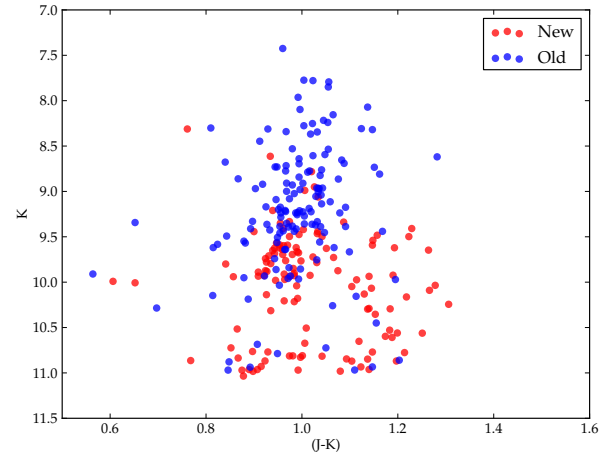


Fig. 12. NIR CMD of all the RSGs in the SMC, where our more complete spatial coverage allows for more meaningful comparison with previous works. Blue dots mark those already present in the literature, while red dots do so for those confirmed in this work. The void around $m_K \sim 10.5$ is an instrumental effect.

Table 5. Details of the bandpasses used in the text.

Label	Survey	λ_{iso} (μm)	$\Delta\lambda$ (μm)
J	2MASS	1.235	0.162
H	2MASS	1.662	0.251
K_S	2MASS	2.159	0.262
[W1]	WISE	3.353	0.662
[W2]	WISE	4.603	1.042
[W3]	WISE	11.561	5.507
[W4]	WISE	22.088	4.101

As has been mentioned, the magnitude of these RSGs in the J band is affected by several atmospheric effects, such as molecular opacity and the appearance of dust, that are controlled by the effective temperature and surface gravity of the star. Interestingly, [W1] is expected to be mostly photospheric and not subject to a strong absorption by the outer layers of the stellar envelope. The interplay of these factors results in the fact that the $(J - [W1])$ is a very good indicator of spectral type, as can be seen in Fig. 13. There is an almost linear relation between SpT and this colour. There are clear hints that this behaviour saturates around M3, but our sample lacks stars of later type, so we cannot confirm this fact.

4.4. Dust, and mass loss

One of the most relevant physical phenomena affecting the atmospheres of late-type stars is that of mass loss. Josselin et al. (2000) show over IRAS data that the $(K_S - [12])$ colour is a good measure of mass loss, as this process will reflect on the MIR excess. The W3 band from WISE is the one that mimics most closely the IRAS $12\mu\text{m}$ band, and so we explore the presence of mass loss using the $(K_S - [W3])$ colour. As can be seen in Fig. 14, all of the MW population present in our sample falls in a stripe of $0 \leq (K_S - [W3]) \leq 0.3$. Almost all SGs, AGBs and carbon stars present redder values of this colour.

Although the bulk of carbon stars tend to be redder than SGs (the majority of which satisfies $(K_S - [W3]) \leq 1.0$), these stars

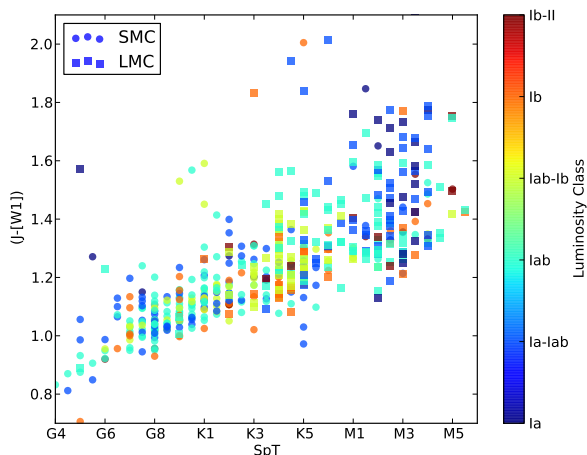


Fig. 13. Variation of $(J - [W1])$ with the spectral type of the RSGs in our sample.

never reach values beyond $(K_S - [W3]) = 2.0$, while several SGs and AGBs do so. This probably hints to an enhanced mass loss and the presence of strong winds. Although the mass loss in SGs is supposed to be much stronger than in AGBs, the distribution of the latter in this plot seems to follow closely that of late-type SGs. As due to our selection criteria we are only picking the bright end of the AGB population, this similarity points again – even if with low statistical significance – to the fact that there is not a sharp-cut transition from AGBs to RSGs. Similar effects have been observed by other authors, e.g. Yang & Jiang (2012).

The number of SGs showing evidences of mass loss becomes important around K5, but even for the most evolved types there are still stars that show small MIR excesses (and so potentially low mass loss). At all types, bright luminosity classes tend to feature higher values for $(K_S - [W3])$.

The onset of dust in the outer layers of their atmospheres is one of the most relevant factors that dictate the photometric properties of cool, late type stars. Large granular compounds (complex carbon molecules, silicate grains, ice particles, etc.) form and coalesce in the outer layers of their extended atmospheres, and mediate their appearance in the NIR and MIR. The thermal emission from these particles becomes dominant at long wavelengths (Smith et al. 2001). In Fig. 15 we compare $([W3] - [W4])$, a colour that should be a good indicator of the dust temperature in the outer layers of the stellar shroud, with $(K_S - [W3])$, that measures mass loss. As noted before only late-type SGs show mass loss, with a marked tendency to higher values than AGBs or carbon stars.

As we can assign membership to the clouds to our stars, it is possible to estimate their intrinsic luminosities by assuming a given distance modulus to each cloud. We use $\mu = 18.48$ for the LMC (Walker 2012) and $\mu = 18.99$ for the SMC (Graczyk et al. 2014). Although not all the stars will be at the same distance, the spread of both clouds in distance modulus is low, and the dispersion introduced in the intrinsic magnitudes negligible for the kind of qualitative analysis we are going to conduct here.

In Fig. 16 we plot two CMDs for our sample.

As expected (Fig. 16, right panel), there is a brightness limit for SGs, and no star in our sample goes beyond $M_J \sim -10.5$, a limit that translates into $M_{K_S} \sim -11.5$. Although the brightest stars in these NIR bands tend to be of late type, there is not a strong correlation between brightness and spectral type. As ex-

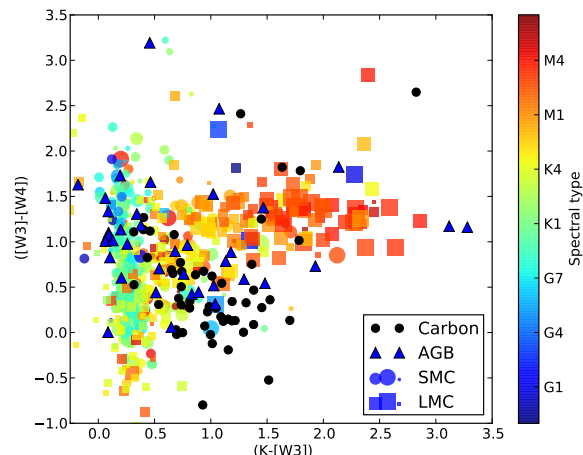


Fig. 15. Colour-colour diagram for our sample of MC stars, representing $(K_S - [W3])$ (related to mass loss) against $([W3] - [W4])$, related to the temperature of the outer dust layers. In this plot, symbol size is a function of LC (i.e larger symbols imply brighter classes).

pected, AGBs and carbon stars occupy the lower end of the magnitude ladder, although some of the latter can reach $M_J \sim -9$.

This is not the case for the brightness in the MIR. SGs with types earlier than K all cluster around $M_{[W4]} \sim -10$. The K sequence of types is more or less evenly distributed between $-10 \geq M_{[W4]} \geq -13$. Finally, late type, M RSGs reach up to $M_{[W4]} \sim -15$, with what appears to be a linear relation between absolute magnitude and colour, likely to arise from the increase of dust in their outer layer, as this would make the star dimmer in J (hence redder) while brighter in $[W4]$, as this band is dominated by the thermal emission of dust. There are some stars of various types that break this upper limit in $M_{[W4]}$, but the photometry of all of them seems to be affected by the nebular emission of large, nearby H II regions, such as 30 Doradus.

It is worth noting that both CMDs sample very different physical elements of the stars, as for objects with extended envelopes and strong losses, in the NIR infrared we are looking at the central object while in the red part of the MIR these extended atmospheres are the dominant component.

4.5. Objects of particular interest

- HV 838: This SMC star is a known large-amplitude photometric variable with a period of ~ 660 days (Wood et al. 1983). It has been considered both an RSG and an AGB star in different works. We have observed it in all three SMC campaigns but only the blue spectrum from 2011 has a SNR sufficient to allow a proper classification. The spectrum shows strong H line emission. In the infrared region, it displays strong inverse P-Cygni profiles in the Ca triplet and other nearby lines. This behaviour is completely atypical in RSGs.

In view of this, we decided to study the infrared spectra from 2010 and 2012. There are no emission lines in these, but the spectral types are very late, explaining why the blue spectra have such a low SNR. Based only in the infrared spectra, we find types $\sim M7$ II in 2010 and $\sim M8$ II in 2012, but in 2011 the infrared spectrum reveals a late K Ib star.

While this extreme change in spectral type is very unfrequent among RSGs, Soszyński et al. (2011) found a varia-

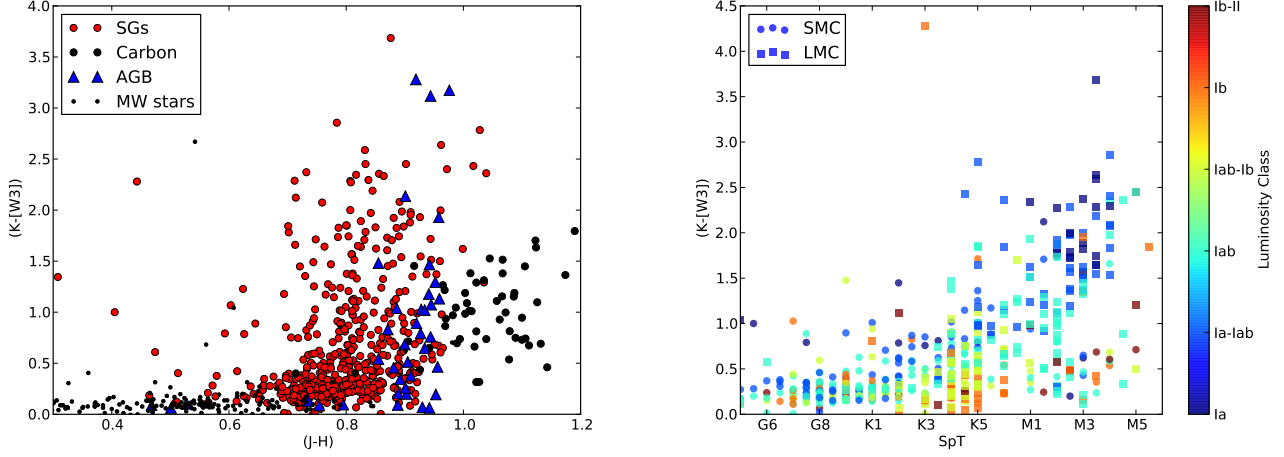


Fig. 14. Left: $(J-H)$ vs. $(K_S - [W3])$ diagram for the whole sample. Right: $(K_S - [W3])$ as a function of spectral type for all the SGs in the sample.

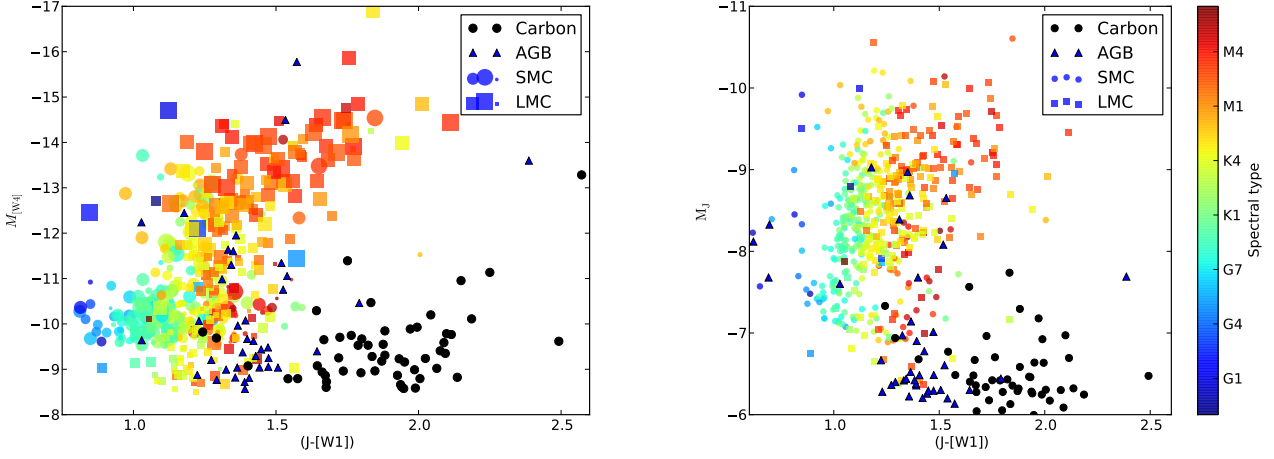


Fig. 16. Two different CMDs for our sample, both using the $(J - [W1])$ colour, that separates well the different populations. **Left:** Absolute magnitude in $[W4]$, dominated by the outermost layers of the stellar envelope. In this plot, symbol size is a function of LC (i.e larger symbols imply brighter classes). **Right:** Absolute magnitude in the J band, for which the bolometric correction is lower.

tion of almost 3 magnitudes in the I -band, much larger than the typical variations for RSGs, $\Delta I \lesssim 0.5$ mag (Groenewegen et al. 2009), and in concordance with the severe spectral variations.

In consequence, despite its high luminosity, $M_{K_S} = -9.55$ mag, more typical of RSGs than AGB stars, we have to conclude that HV 838 is a very luminous AGB star. This is in agreement with its position in the period/luminosity diagram (Wood et al. 1983) and the presence of a significant $\text{Li I } 6707\text{\AA}$ line (Smith et al. 1995).

- HV 1956 ([M2002] 58738): This star is a well known long-period Cepheid variable (Butler 1976; Eggen 1977), with a very long period of ~ 210 days (Soszyński et al. 2010). This star has been classified as M0–I1 by (Prevot et al. 1983), G2 Ib by Wallerstein (1984) and K2 I by Massey (2002). We have observed it in all three epochs, finding spectral types G5 Ia in 2010, G7 Ia in 2011 and G4 Ia in 2012. This is a very peculiar object and while we cannot discard the possibility of very large spectral variations, we can conclude that it spends most of its time in the G spectral type, as expected for a Cepheid variable.

In addition, our red spectra show inverse P-Cygni emission for most of the lines in 2010, no emission in 2011, and Cepheid-like profiles for the Ca triplet lines only in 2012.

Finally, we have to note this star has a $(J-H) \sim 0.4$. Therefore, in Fig. 10, it is the only G star with the expected values for giants (the solid red line).

- SMC091 (PMMR 10): This star shows a low radial velocity ($v_{\text{hel}} = 54.5 \text{ km s}^{-1}$), a value well under our velocity threshold to be considered a member of the SMC. However, our classification for it is K4 Ia. Its high luminosity cannot be doubted and therefore it is a RSG, as first suggested by Prevot et al. (1983). It has $K_S = 9.062$ mag, typical of SMC RSGs (see Fig. 6). Therefore, despite its anomalous velocity, it is an RSG at the distance of the SMC. We speculate that it may be a runaway, ejected from a cluster or, more likely, from a binary in a supernova explosion.
- SMC121: This star presents very atypical MIR photometry, with low photometric errors. It has a $M_{[W4]} = -15.7$ and $([W3] - [W4]) = 4.4$, indicative of an extreme dust envelope. Both values are close to being the highest among all our RSGs and AGB stars. The spectrum of this star presents no anomalies, and we have classified it as G8 Ib. Inspection

of the WISE W4 images for the area show that the star is projected on a patch of extended bright emission, associated to the H II region LHA 115-N 23. The anomalous MIR colours are undoubtedly due to contamination by the extended emission. The nearby RSG SMC123 is also likely contaminated by emission from this H II region and/or LHA 115-N22. For this reason, both stars have been removed from the plots.

- SMC145: Its NIR spectrum is similar to a Carbon Star, but the Ca triplet is still visible. Its optical spectrum is not that of a Carbon star either, but it does not look similar to any of our standard or reference stars. We speculate that it may be related to S stars.
- SMC169: This very late star displays an optical spectrum around M8.5 III. However, it has a $M_{K_s} = -10.2$ mag, more typical of a RSG than a giant star. Soszyński et al. (2009) give a main period of 1062 days, with an amplitude in the I band of 2.7 mag, much larger than the typical values for RSGs, (~ 0.5 mag; Groenewegen et al. 2009). We have also examined the NIR spectrum, which shows many metallic lines despite its late spectral type. Therefore, we consider it as very luminous AGB star, and we have classified it as M8 II.
- SMC283 (CM Tuc): This is the brightest star in our sample, with $K_s = 4.785$ mag. It also has the only negative radial velocity and the latest SpT (M6 Iab) in our sample. Attending to its velocity and brightness, it cannot belong to the SMC. In fact, it was previously identified as a foreground star because of its velocity by Prevot et al. (1983).
In mid or late-M luminous stars, the rise of TiO bands erodes the continuum, weakening or erasing the atomic lines. In consequence, the exact luminosity class of this object cannot be ascertained. Being a foreground star, we have no information about its intrinsic luminosity. Therefore, even if morphologically it shows the properties of a supergiant, it may be an AGB star.
The average intrinsic K_s magnitude for other stars with similar spectral type (M5 I) in our SMC sample is $M_{K_s} = -10.2$ mag. If we consider this as the intrinsic magnitude for our star, we obtain for it a distance modulus of 14.5 mag, i.e. 10 kpc, too far from the SMC to have any relation with it. However, as a galactic star, the reason for this location and velocity remains without explanation.
- SMC311 (HV 12149): This very late star shows a spectrum about M8 III. However, it has a $M_{K_s} = -10.4$ mag, more typical of RSGs than giant stars. Soszyński et al. (2009) give a main period of 769 days, with an amplitude of 2.3 mag, much larger than the typical variations for RSGs. We have also examined the NIR spectrum, which shows many metallic lines despite its late spectral type. Therefore, we consider it as very luminous AGB star, and we have classified it as M8.5 II.
- SMC401 (HV 2112): With a spectral type about M5.5 II, this object has $M_{K_s} = -10.3$ mag, again very bright for a giant. However, OGLE has classified it as an unresolved multiple star, perhaps explaining its atypically high brightness in the K_s band. In any case, this has to be a very luminous AGB star.
- LMC039: Its velocity is higher than the assumed threshold for the LMC. Its spectrum, however, corresponds without a doubt to a RSG, while its brightness is inside the typical range for RSGs in the LMC. In consequence, we consider it as an LMC RSG with peculiar velocity.
- LMC074 (HV 2572): This object was proposed by Wood & Bessell (1985) as a candidate low-luminosity RSG, because

of a photometric period of only 201 days. The spectroscopic data disprove this possibility. Our spectral type, combining the blue and infrared spectra, is M7 III, while Smith et al. (1995) report the detection of a strong Li I 6707 Å line. Even though Groenewegen et al. (2009) report a photometric period of 312 days, OGLE III data (Soszyński et al. 2009) give a main period of 605 days, more in line with the luminosity/period relation for AGB stars. Also, Soszyński et al. (2009) observed an amplitude in I of 2.5 mag, too large for a RSG (Groenewegen et al. 2009). HV 2572 is therefore a luminous AGB star, with $M_{K_s} = -10.1$ mag (above the upper M_{K_s} limit in the period/luminosity diagram of Wood et al. 1983). Therefore we have opted to classify it as M7.5 II-III.

- LMC169 (HV 2670): This star has a radial velocity below the threshold adopted, but its spectrum shows clear RSG features. Its brightness is also typical for a LMC RSG. Therefore, we consider that this star is a LMC RSG with peculiar velocity.

We have also found emission in Balmer H lines for some of our RSGs. As they present no other typical nebular emission lines, we consider this emission as intrinsic. On the other side, in the IR spectra there are no emission lines or any other peculiarities. In the SMC, stars with Balmer line emission are: SMC374, SMC372, [S84d] 105-7, and [M2002] SMC 8324, 8930, 9766, 13472, 18592, 23463 & 55355. In the LMC sample, we find: LMC122 and [M2002] LMC 143035 & 148381.

A number of targets show evidence for a blue companion in their optical spectra. We list:

- [M2002] 55933: The blue end of its optical spectrum is dominated by the signal of an early B star. We have checked available images in the U band and found a large number of blue objects around our star. Therefore, this early-B star might be a visual companion.
- [M2002] 67554: For wavelengths shorter than 4300 Å the spectrum is dominated by the flux of an early-B star. In the available image in the U band, there is a blue star 4'' away. The possibility that some of the flux is collected by the fibre cannot be discarded, and so the blue star might be the visual companion.
- [M2002] 51906: This star has an H δ absorption line stronger than usual for its SpT. It may be caused by a physical early-type companion, as no blue stars close to this RSG are seen in the U -band image.
- YSG010: The blue end of its optical spectrum is dominated by the flux of a B star. Given the shape of its lines, it has to be a fast rotator. As in the U -band image there are not other blue stars close to it, the B star may be a binary companion. This object presents emission in the Balmer lines, but there are no nebular emission lines, nor emission features in the NIR spectrum.
- [M2002] 169142, 168047 and LMC238: In all cases, the blue end of the optical spectrum is dominated by the flux of an early B star. As these stars are in the middle of clusters (H88 298, KMK88 91 and BSD1 2654, respectively) the B star is probably another spatially-separated member.
- LMC172: The blue end of its optic spectrum shows the imprint of an early star. The U -band image does not provide definite information, and this star may be a visual companion. As the S/N is low for this possible companion, a more detailed classification is not possible.
- LMC049: This star is in the middle of the cluster NGC 1967, and the blue end of its optical spectrum is dominated by the flux of a B0–B1 star.

- LMC239: This star is in the middle of the cluster H88 301, and its blue spectrum shows traces of an early B star.
- LMC256: This star is in the middle of the cluster H88 308, and its blue optic spectrum is dominated by a \sim B1 III star.
- SMC099: An early-B star appears in its blue spectrum. However, in the U band image there are no bright sources close to this star. Therefore, this early-B contaminant may be a physical companion.
- LMC062: This star is in the cluster NGC 1983. Its optical spectrum is completely dominated by an B9 I star, but its red spectrum is a blend of a bright K-type supergiant and an earlier component, probably a bright G or F-type star.
- LMC110: Despite the late spectral type of this star (M5 Ib-II), it presents strong Balmer lines in the blue spectrum. Since no He I lines are seen, this early-type companion may be a late-B or early-A star. In this case, its LC should be at least II to be observable in the LMC. There are no indications of a cluster close to this star.

5. Conclusions

We have performed a pilot study in Large and Small Magellanic Clouds, aimed at their red supergiant population. Over a set of photometrically selected candidates, we have performed a detailed spectroscopic analysis, deriving spectral types, luminosity classes and line-of-sight velocities for all the observed targets. Once classified and with the available photometry, we show that:

- There is a large population of supergiants in both clouds, largely in the dim end of their brightness range, that remains to be observed.
- There is no purely photometric criterion capable of separating completely different populations, and when selecting RSGs, we will always have to choose between the completeness of the photometric sample and its cleanliness. Due to the fact that instead of clear-cut borders, the transitions between different populations are gradual, there will always be some AGB and carbon stars that will appear as interlopers.
- It is possible, nonetheless, to use the synergies between near and mid infrared photometry to open avenues to much more efficient selection criteria.
- The completeness of the photometric selection criteria is a function of spectral type, and in particular there is a loss of efficiency for red supergiants with the earliest and latest types. This has to be weighed in whenever drawing conclusions about their relative abundances in several astrophysical contexts.
- Mass loss becomes important only for supergiants later than K5, although it is not ubiquitous and at each spectral type there will stars with no or very little apparent mass loss.
- The thermal behaviour of the dust inhabiting these expelled outer layers seems to be similar for all the supergiants, independent of spectral type and luminosity class.

Acknowledgements. The observations have been supported by the OPTICON project (observing proposals 2010B/01, 2011A/014 and 2012A/015), which is funded by the European Commission under the Seventh Framework Programme (FP7). Part of the observations have been taken under service mode, (service proposal AO171) and the authors gratefully acknowledge the help of the AAO support astronomers. This research is partially supported by the Spanish Ministerio de Economía y Competitividad (Mineco) under grant AYA2012-39364-C02-02. The work reported on in this publication has been partially supported by the European Science Foundation (ESF), in the framework of the GREAT Research Networking Programme. This research was achieved using the POLLUX database (<http://pollux.graal.univ-montp2.fr>) operated at LUPM (Université Montpellier II - CNRS, France with the support of the PNPS and INSU. This research made use of the Simbad, Vizier, and Aladin services developed at

the Centre de Données Astronomiques de Strasbourg, France. This publication makes use of data products from the Two Micron All Sky Survey, which is a joint project of the University of Massachusetts and the Infrared Processing and Analysis Center/California Institute of Technology, funded by the National Aeronautics and Space Administration and the National Science Foundation. This publication makes use of data products from the Wide-field Infrared Survey Explorer, which is a joint project of the University of California, Los Angeles, and the Jet Propulsion Laboratory/California Institute of Technology, funded by the National Aeronautics and Space Administration.

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Appendix A: Catalogue of observed sources

Table A.1. Summary of the observations

ID ¹	Cloud	RA	Dec	Origin ²	Var.	v_{HEL}	SpT	LC ³	Epochs				2MASS				WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4	
LMC001	LMC	80.21066667	-69.40222222	GDN	-	245.5	Unk	C	0	0	0	1	12.48	11.46	10.99	10.54	10.67	10.17	9.90	
LMC002	LMC	80.26645833	-69.45668056	GDN	-	268.8	M3	Ib	0	0	0	1	11.43	10.60	10.34	10.22	10.42	10.19	9.77	
LMC003	LMC	80.34245833	-69.51676111	GDN	-	269.6	Unk	C	0	0	0	1	11.56	10.49	10.02	9.57	9.62	9.10	9.89	
LMC004	LMC	80.38912500	-69.20932778	GDN	-	271.9	Unk	C	0	0	0	1	12.31	11.23	10.70	-	-	-	-	
LMC005	LMC	80.47033333	-69.75530278	GDN	-	240.0	Unk	C	0	0	0	1	12.12	11.02	10.53	10.28	10.35	9.59	9.52	
LMC006	LMC	80.54104167	-69.79196111	GDN	-	283.7	M2.5	II-III	0	0	0	1	12.12	11.22	10.87	10.73	10.79	10.36	9.92	
LMC007	LMC	80.59904167	-69.38114167	GDN	-	268.2	K4.5	Iab-Ib	0	0	0	1	10.34	9.55	9.30	9.17	9.38	9.15	9.32	
LMC008	LMC	80.68191667	-69.62240556	GDN	-	287.2	K5	Ib	0	0	0	1	10.48	9.67	9.39	9.27	9.49	9.32	9.98	
LMC009	LMC	80.68466667	-69.89367778	GDN	-	247.1	Unk	C	0	0	0	1	12.18	11.11	10.68	10.17	10.13	9.16	9.69	
LMC010	LMC	80.70816667	-69.81517778	GDN	-	26.9	K1.5	III	0	0	0	1	10.03	9.36	9.20	9.14	9.25	9.13	9.08	
LMC011	LMC	80.74941667	-69.83781389	GDN	-	256.9	M3	Ib	0	0	0	1	11.90	10.98	10.67	10.53	10.72	9.32	7.03	
LMC012	LMC	80.78433333	-69.88474167	GDN	-	256.3	Unk	C	0	0	0	1	12.23	11.15	10.65	10.25	10.31	9.84	9.49	
LMC013	LMC	80.83783333	-69.96474444	GDN	-	231.2	Unk	C	0	0	0	1	12.06	11.09	10.76	10.31	10.42	9.50	7.09	
LMC014	LMC	80.85466667	-69.42653611	GDN	-	269.4	K5	Ib	0	0	0	1	10.44	9.62	9.39	9.26	9.45	9.15	9.00	
LMC015	LMC	80.86116667	-69.98035278	GDN	-	256.1	M6.5	Ib	0	0	0	1	10.60	9.76	9.42	9.55	9.31	8.65	8.37	
LMC016	LMC	80.86516667	-68.80356667	GDN	-	304.6	Unk	C	0	0	0	1	12.44	11.44	11.00	10.76	10.75	10.26	9.75	
LMC017	LMC	80.87108333	-68.92622500	GDN	-	256.4	M4	III	0	0	0	1	11.99	11.06	10.68	10.52	10.57	10.86	9.23	
LMC018	LMC	80.91700000	-69.56565000	GDN	-	262.9	Unk	C	0	0	0	1	11.71	10.72	10.36	10.17	10.26	9.67	9.69	
LMC019	LMC	80.92095833	-69.81222500	GDN	-	298.7	Unk	C	0	0	0	1	11.99	10.97	10.53	10.42	10.44	10.21	9.69	
LMC020	LMC	80.94975000	-70.12633611	GDN	-	250.1	M2	Iab	0	0	0	1	10.41	9.54	9.27	9.11	9.23	8.96	8.31	
LMC021	LMC	80.98154167	-68.91009444	GDN	-	280.5	K2	Ib	0	0	0	1	11.44	10.70	10.47	10.36	10.55	10.48	9.60	
LMC022	LMC	80.98445833	-69.60604167	GDN	-	270.0	M2	Iab	0	0	0	1	10.22	9.44	9.18	9.07	9.26	8.95	9.60	
LMC023	LMC	80.98950000	-69.53005278	GDN	-	249.1	Unk	C	0	0	0	1	12.00	10.96	10.58	10.34	10.41	9.85	9.54	
LMC024	LMC	81.00404167	-69.21662778	GDN	-	278.5	Unk	C	0	0	0	1	12.19	11.11	10.60	10.32	10.35	9.45	9.30	
LMC025	LMC	81.01891667	-69.90628889	GDN	-	232.1	Unk	C	0	0	0	1	12.01	10.97	10.50	9.51	9.74	9.19	8.86	
LMC027	LMC	81.09195833	-69.24705556	GDN	-	265.0	M4.5	II-III	0	0	0	1	12.06	11.16	10.81	10.73	10.87	8.67	6.84	
LMC029	LMC	81.14837500	-69.29689722	GDN	-	255.3	Unk	C	0	0	0	1	12.55	11.44	10.88	10.46	10.50	10.21	9.13	
LMC030	LMC	81.18091667	-70.00032778	GDN	-	250.9	M2.5	Iab	0	0	0	1	9.93	9.13	8.82	8.68	8.88	8.24	7.40	
LMC031	LMC	81.19891667	-70.04872778	GDN	-	216.7	Unk	C	0	0	0	1	12.18	11.09	10.60	10.10	10.17	9.41	9.07	
LMC033	LMC	81.23670833	-69.68819444	GDN	-	273.1	M0	Iab	0	0	0	1	10.13	9.32	9.05	8.89	9.09	8.52	7.01	
LMC034	LMC	81.33358333	-69.34005000	GDN	-	283.2	K2	Ib-II	0	0	0	1	12.10	11.25	10.99	10.80	10.96	9.88	9.46	
LMC035	LMC	81.35370833	-69.86253333	GDN	-	261.7	G5	Iab	0	0	0	1	11.74	11.17	10.97	10.85	11.03	10.85	9.45	
LMC036	LMC	81.41037500	-70.13442222	GDN	-	244.4	M3.5	II	0	0	0	1	12.04	11.16	10.83	10.70	10.84	10.37	7.18	
LMC037	LMC	81.41733333	-69.68340278	GDN	-	260.8	M3	II	0	0	0	1	11.47	10.61	10.24	9.99	10.15	9.70	9.00	
LMC039	LMC	81.45233333	-68.93986389	GDN	-	329.9	M1	Ia	0	0	0	1	10.03	9.27	8.99	8.82	9.00	8.52	7.34	
LMC040	LMC	81.46545833	-69.38558889	GDN	-	291.6	Unk	C	0	0	0	1	12.22	11.13	10.62	10.28	10.29	9.87	9.87	
LMC041	LMC	81.47908333	-69.30676944	GDN	-	264.0	M4	III	0	0	0	1	12.18	11.23	10.85	10.67	10.76	10.09	9.44	
LMC042	LMC	81.48233333	-69.25866667	GDN	-	286.6	K3	Iab-Ib	0	0	0	1	10.96	10.20	9.96	9.87	10.06	9.85	9.74	
LMC043	LMC	81.48587500	-70.06277500	GDN	-	248.6	Unk	C	0	0	0	1	12.02	11.01	10.50	10.09	10.14	9.49	9.61	
LMC044	LMC	81.58433333	-69.50343333	GDN	-	273.7	K5	Iab-Ib	0	0	0	1	10.25	9.49	9.23	9.02	9.21	8.93	8.64	
LMC045	LMC	81.59808333	-69.87382500	GDN	-	259.7	M3	Ia	0	0	0	1	8.39	7.58	7.19	6.92	7.09	5.63	4.35	
LMC046	LMC	81.59991667	-69.97300833	GDN	-	268.7	M4.5	Iab	0	0	0	1	10.52	9.61	9.29	9.18	9.33	8.96	9.04	

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _S	W1	W2	W3	W4
LMC047	LMC	81.64133333	-69.37513611	GDN	–	267.9	K4	Iab	0	0	0	1	10.38	9.57	9.34	9.15	9.33	8.74	8.58
LMC048	LMC	81.68300000	-69.78303611	GDN	–	267.9	K3.5	Ib-II	0	0	0	1	11.83	11.08	10.80	10.64	10.84	10.69	9.45
LMC049	LMC	81.68645833	-69.10181389	GDN	–	273.2	K4	Iab	0	0	0	1	9.59	8.81	8.54	8.29	8.32	7.07	6.17
LMC050	LMC	81.72158333	-69.97322222	GDN	–	249.4	K5.5	Iab	0	0	0	1	12.06	11.18	10.90	10.74	10.99	11.16	9.81
LMC051	LMC	81.76416667	-69.08876667	GDN	–	267.0	K4	Iab-Ib	0	0	0	1	10.33	9.55	9.29	9.12	9.32	9.05	9.67
LMC053	LMC	81.77775000	-69.74446944	GDN	–	267.8	M3	III	0	0	0	1	12.19	11.28	10.99	10.71	10.84	10.61	9.43
LMC054	LMC	81.79266667	-69.60742222	GDN	–	292.8	M6.5	III	0	0	0	1	10.40	9.54	9.16	8.88	8.66	7.68	7.14
LMC055	LMC	81.81400000	-69.56178333	GDN	–	297.8	K4	Ib	0	0	0	1	11.51	10.72	10.48	10.36	10.56	10.41	9.91
LMC056	LMC	81.82145833	-69.51057500	GDN	–	260.4	M2.5	III	0	0	0	1	12.08	11.19	10.91	10.79	10.95	10.81	9.71
LMC057	LMC	81.84075000	-69.43964444	GDN	–	42.7	K4	III	0	0	0	1	7.93	7.25	7.05	6.87	7.10	6.98	6.90
LMC058	LMC	81.84212500	-69.78617222	GDN	–	270.6	K3	Ib	0	0	0	1	11.31	10.48	10.16	9.48	8.65	5.88	4.22
LMC059	LMC	81.87041667	-69.36875278	GDN	–	39.1	K4	V	0	0	0	1	8.86	8.34	8.15	–	–	–	–
LMC060	LMC	81.91083333	-69.47890556	GDN	–	272.8	M1.5	Ia-Iab	0	0	0	1	9.33	8.52	8.22	8.04	8.17	7.30	5.86
LMC061	LMC	81.93604167	-69.79763056	GDN	–	260.5	M1.5	Iab	0	0	0	1	10.70	9.90	9.62	9.41	9.59	9.11	7.80
LMC062	LMC	81.93933333	-68.98568611	GDN	–	270.3	F9	Iab	0	0	0	1	9.69	9.07	8.80	–	–	–	–
LMC063	LMC	81.96550000	-69.25208889	GDN	–	276.1	K0	Iab	0	0	0	1	10.81	10.09	9.87	9.74	9.93	9.71	9.31
LMC064	LMC	81.99850000	-69.58091667	GDN	–	264.2	M3	II	0	0	0	1	11.51	10.62	10.30	10.18	10.36	10.09	9.49
LMC065	LMC	82.00908333	-70.02786389	GDN	–	260.4	M4	II-III	0	0	0	1	12.22	11.29	10.98	10.78	10.78	9.96	9.44
LMC066	LMC	82.01995833	-69.06577222	GDN	–	275.6	G6	Iab	0	0	0	1	10.61	9.85	9.58	9.38	9.56	9.00	7.68
LMC067	LMC	82.06800000	-70.25057222	GDN	–	271.4	M3	III	0	0	0	1	11.88	10.93	10.57	10.35	10.53	9.10	7.73
LMC068	LMC	82.07337500	-69.62535000	GDN	–	9.5	M2	V	0	0	0	1	11.31	10.68	10.39	10.28	10.28	10.08	9.62
LMC069	LMC	82.08579167	-70.06886389	GDN	–	257.4	Unk	C	0	0	0	1	12.63	11.50	10.98	10.48	10.61	9.35	7.53
LMC070	LMC	82.08716667	-69.05706667	GDN	–	261.5	M2	Iab	0	0	0	1	10.31	9.35	8.97	8.77	8.92	7.99	6.60
LMC071	LMC	82.09695833	-70.16149167	GDN	–	252.0	Unk	C	0	0	0	1	12.54	11.43	10.87	10.47	10.53	10.13	9.46
LMC072	LMC	82.10758333	-69.77984722	GDN	–	242.8	Unk	C	0	0	0	1	11.85	10.83	10.40	9.85	9.85	9.02	8.55
LMC073	LMC	82.13008333	-69.64423333	GDN	–	216.8	Unk	C	0	0	0	1	12.30	11.29	10.83	10.57	10.62	10.17	9.52
LMC074	LMC	82.15295833	-69.33445833	GDN	–	279.8	M7.5	II-III	0	0	0	1	9.79	8.84	8.45	8.44	8.18	7.32	6.53
LMC075	LMC	82.17154167	-70.12099444	GDN	–	238.9	K4.5	Iab	0	0	0	1	11.79	10.95	10.57	10.23	10.42	10.06	9.45
LMC076	LMC	82.17158333	-68.93471389	GDN	–	277.4	M2.5	Ib-II	0	0	0	1	9.80	8.99	8.72	8.56	8.68	8.25	8.15
LMC077	LMC	82.17941667	-69.09612222	GDN	–	23.0	K4	V	0	0	0	1	10.83	10.28	10.13	10.05	10.11	10.46	9.62
LMC078	LMC	82.20704167	-69.91853333	GDN	–	269.8	M2.5	III	0	0	0	1	12.04	11.08	10.68	10.25	10.01	8.75	8.02
LMC079	LMC	82.21591667	-70.01236667	GDN	–	252.7	M5.5	Ib	0	0	0	1	10.24	9.35	8.98	8.82	8.69	7.14	6.01
LMC080	LMC	82.22112500	-69.50417222	GDN	–	281.1	K1	Ib	0	0	0	1	11.53	10.71	10.45	10.27	10.44	9.64	8.30
LMC081	LMC	82.25291667	-69.44557222	GDN	–	271.7	K4.5	Ib	0	0	0	1	10.53	9.75	9.51	9.36	9.56	9.34	9.23
LMC082	LMC	82.25512500	-68.89506389	GDN	–	272.3	K4.5	Ib	0	0	0	1	10.03	9.26	9.01	8.88	9.07	8.57	8.07
LMC083	LMC	82.25812500	-69.29376944	GDN	–	275.2	M3	II	0	0	0	1	12.12	11.22	10.92	10.84	10.97	10.58	9.27
LMC084	LMC	82.26733333	-69.35520833	GDN	–	271.2	K0	Iab	0	0	0	1	11.18	10.49	10.32	10.17	10.35	10.05	9.35
LMC086	LMC	82.35416667	-69.94058889	GDN	–	262.2	M5	Iab-Ib	0	0	0	1	11.05	10.16	9.79	9.63	9.73	9.29	8.36
LMC087	LMC	82.37066667	-69.83750278	GDN	–	262.1	M4.5	Ib	0	0	0	1	11.49	10.60	10.22	–	–	–	–
LMC088	LMC	82.37100000	-68.86121389	GDN	–	278.4	K4	Ib	0	0	0	1	10.32	9.54	9.28	9.15	9.35	9.09	9.03
LMC089	LMC	82.37125000	-70.20339167	GDN	–	199.0	M1	III	0	0	0	1	12.07	11.09	10.76	10.49	10.71	10.05	8.73
LMC090	LMC	82.37633333	-69.33255000	GDN	–	337.4	Unk	C	0	0	0	1	11.80	10.90	10.50	10.40	10.35	9.78	9.41
LMC091	LMC	82.37850000	-68.79964444	GDN	–	267.3	K3	Ib	0	0	0	1	10.43	9.64	9.41	9.29	9.48	9.26	9.41

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs					2MASS				WISE			
									2010	2011	2012	2013		J	H	K _S		W1	W2	W3	W4
LMC092	LMC	82.39300000	-68.88621389	GDN	–	292.7	M2	Iab	0	0	0	1		10.32	9.52	9.24		8.99	9.10	8.37	7.10
LMC093	LMC	82.39741667	-68.51264167	GDN	–	271.0	M1.5	Iab	0	0	0	1		9.71	8.82	8.48		8.24	8.38	7.54	6.70
LMC094	LMC	82.41795833	-68.85853611	GDN	–	285.7	K5	Ib	0	0	0	1		10.59	9.77	9.49		9.40	9.59	9.32	9.16
LMC095	LMC	82.41804167	-70.26022222	GDN	–	20.3	K5.5	III	0	0	0	1		6.69	5.95	5.75		5.58	5.66	5.71	5.58
LMC096	LMC	82.44241667	-68.61734722	GDN	–	268.0	M2	Ia-Iab	0	0	0	1		9.90	9.03	8.75		8.62	8.74	8.45	8.89
LMC097	LMC	82.46720833	-70.13899167	GDN	–	265.1	Unk	C	0	0	0	1		12.12	11.20	10.88		10.45	10.55	10.44	9.62
LMC099	LMC	82.49191667	-69.69374722	GDN	–	266.8	M2.5	III	0	0	0	1		12.28	11.32	10.98		10.86	11.03	10.52	8.86
LMC100	LMC	82.50320833	-69.97554722	GDN	–	34.7	K2	III	0	0	0	1		5.98	5.36	5.13		5.09	5.01	5.09	5.00
LMC101	LMC	82.50729167	-69.47715833	GDN	–	288.9	M0	Ib	0	0	0	1		10.29	9.49	9.24		9.09	9.29	9.01	9.40
LMC102	LMC	82.54354167	-70.06969444	GDN	–	269.2	K5	Iab	0	0	0	1		10.74	10.04	9.81		9.55	9.64	9.46	9.49
LMC104	LMC	82.55554167	-68.67707222	GDN	–	55.1	K0.5	III	0	0	0	1		9.91	9.33	9.20		9.16	9.25	9.35	9.27
LMC105	LMC	82.56341667	-69.43190000	GDN	–	284.8	M4.5	II	0	0	0	1		12.19	11.23	10.93		10.74	10.74	9.63	9.04
LMC106	LMC	82.57250000	-70.30406944	GDN	–	260.9	M3.5	III	0	0	0	1		11.70	10.83	10.44		10.27	10.17	9.61	9.19
LMC107	LMC	82.57708333	-69.45724444	GDN	–	274.9	Unk	C	0	0	0	1		12.08	11.13	10.74		10.43	10.55	10.09	9.40
LMC108	LMC	82.61904167	-69.34882500	GDN	–	285.1	Unk	C	0	0	0	1		10.91	9.91	9.51		9.27	9.20	8.32	8.19
LMC109	LMC	82.61916667	-70.05242222	GDN	–	280.5	Unk	C	0	0	0	1		12.09	11.09	10.61		–	–	–	–
LMC110	LMC	82.64037500	-70.02628333	GDN	–	257.8	M5	Ib-II	0	0	0	1		10.70	9.80	9.36		9.21	9.16	8.16	7.15
LMC111	LMC	82.66037500	-69.01471667	GDN	–	273.6	K4.5	Iab-Ib	0	0	0	1		10.44	9.65	9.35		9.23	9.43	9.14	9.12
LMC112	LMC	82.70620833	-70.28741389	GDN	–	93.0	M2	II-III	0	0	0	1		8.80	8.06	7.79		7.64	7.87	7.67	7.53
LMC113	LMC	82.71050000	-69.15498333	GDN	–	113.7	K1	III	0	0	0	1		10.55	9.94	9.74		9.69	9.81	10.19	9.51
LMC114	LMC	82.71720833	-69.42849722	GDN	–	273.4	M3	Ia-Iab	0	0	0	1		10.23	9.48	9.19		8.94	9.01	7.70	6.30
LMC116	LMC	82.73612500	-69.45112500	GDN	–	267.1	K4	Iab-Ib	0	0	0	1		10.50	9.73	9.52		9.37	9.56	9.32	9.00
LMC117	LMC	82.75608333	-69.99128611	GDN	–	267.2	K4.5	Ib	0	0	0	1		11.67	10.91	10.70		10.59	10.78	10.65	9.74
LMC118	LMC	82.76825000	-69.79653333	GDN	–	278.8	M4	III	0	0	0	1		12.10	11.17	10.87		10.71	10.87	10.80	9.76
LMC119	LMC	82.76916667	-69.37258889	GDN	–	283.7	Unk	C	0	0	0	1		12.20	11.13	10.72		10.53	10.52	10.19	9.88
LMC120	LMC	82.82650000	-68.73339167	GDN	–	275.2	K4	Iab	0	0	0	1		9.66	8.89	8.61		8.44	8.59	8.05	7.11
LMC121	LMC	82.83295833	-70.03182222	GDN	–	264.8	M1	II	0	0	0	1		11.81	11.02	10.77		10.59	10.80	10.68	9.60
LMC122	LMC	82.85112500	-68.69268056	GDN	–	298.2	K4.5	Ib-II	0	0	0	1		9.80	9.00	8.68		8.56	8.72	8.42	8.78
LMC123	LMC	82.87641667	-69.78688056	GDN	–	252.2	M3.5	II-III	0	0	0	1		12.26	11.35	10.99		10.90	10.97	10.80	9.66
LMC124	LMC	82.87841667	-69.89533889	GDN	–	258.3	K4.5	Iab-Ib	0	0	0	1		10.56	9.79	9.54		9.39	9.58	9.02	7.64
LMC125	LMC	82.88025000	-69.17458333	GDN	–	274.9	K4	Iab-Ib	0	0	0	1		9.96	9.16	8.81		8.64	8.80	7.76	6.75
LMC127	LMC	82.88916667	-69.73401667	GDN	–	271.5	M2	Ib-II	0	0	0	1		11.49	10.63	10.32		–	–	–	–
LMC129	LMC	82.89529167	-69.03862778	GDN	–	268.6	M3.5	Ib	0	0	0	1		11.32	10.41	10.10		10.04	10.17	9.68	8.21
LMC130	LMC	82.89545833	-69.56375000	GDN	–	250.7	Unk	C	0	0	0	1		12.20	11.07	10.54		10.26	10.31	9.85	9.82
LMC133	LMC	82.94737500	-69.50853611	GDN	–	253.9	Unk	C	0	0	0	1		12.16	11.03	10.57		10.28	10.33	9.47	8.93
LMC135	LMC	82.96408333	-68.67576667	GDN	–	60.3	K1.5	III	0	0	0	1		10.63	9.98	9.81		9.73	9.85	9.76	7.87
LMC137	LMC	82.99191667	-69.23150556	GDN	–	278.3	K5.5	Ia-Iab	0	0	0	1		9.95	9.16	8.87		8.69	8.85	8.00	6.85
LMC138	LMC	82.99545833	-69.16088889	GDN	–	18.9	K3.5	III-IV	0	0	0	1		7.62	6.95	6.76		6.66	6.76	6.70	6.79
LMC139	LMC	82.99616667	-69.53840000	GDN	–	230.9	Unk	C	0	0	0	1		12.35	11.21	10.78		10.51	10.55	10.32	9.20
LMC140	LMC	83.00887500	-69.76330556	GDN	–	289.1	M0	Ia-Iab	0	0	0	1		9.77	8.96	8.67		8.47	8.65	8.01	7.23
LMC141	LMC	83.07483333	-69.25103889	GDN	–	275.7	K3	Iab-Ib	0	0	0	1		10.19	9.49	9.24		9.07	9.26	8.84	8.77
LMC142	LMC	83.07575000	-69.47328889	GDN	–	252.8	Unk	C	0	0	0	1		12.02	11.00	10.54		10.09	10.14	9.25	9.25
LMC143	LMC	83.08562500	-69.26690833	GDN	–	270.2	K5	Iab-Ib	0	0	0	1		9.86	9.06	8.79		8.66	8.84	8.26	7.70

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
LMC144	LMC	83.09837500	-69.67271389	GDN	–	283.6	M3	III	0	0	0	1	12.20	11.27	10.96	10.97	11.04	9.94	8.42
LMC146	LMC	83.12495833	-70.00215833	GDN	–	242.3	Unk	C	0	0	0	1	12.14	11.17	10.73	10.42	10.49	9.87	9.23
LMC147	LMC	83.13620833	-69.66315556	GDN	–	102.9	K2	III	0	0	0	1	10.91	10.24	10.09	10.02	10.14	10.00	9.43
LMC148	LMC	83.13825000	-69.93636389	GDN	–	250.3	M3.5	III	0	0	0	1	11.34	10.44	10.10	9.97	10.05	9.41	8.52
LMC149	LMC	83.17079167	-69.44350278	GDN	–	263.1	Unk	C	0	0	0	1	11.90	10.89	10.44	10.01	10.10	9.46	9.17
LMC150	LMC	83.18541667	-69.26965278	GDN	–	273.5	M4.5	Iab	0	0	0	1	10.49	9.59	9.30	9.14	9.25	8.41	7.69
LMC151	LMC	83.20791667	-68.87123889	GDN	–	247.8	Unk	C	0	0	0	1	12.68	11.49	10.92	10.43	10.46	9.13	7.34
LMC153	LMC	83.21879167	-69.76476389	GDN	–	259.9	M2	II	0	0	0	1	12.35	11.37	10.99	10.77	10.85	7.82	2.71
LMC154	LMC	83.23133333	-69.53446111	GDN	–	287.6	M3	Iab	0	0	0	1	11.24	10.35	10.07	9.95	10.12	9.96	9.62
LMC155	LMC	83.24933333	-69.30600833	GDN	–	271.5	K5	Iab-Ib	0	0	0	1	10.11	9.32	9.06	8.92	9.09	8.58	8.41
LMC156	LMC	83.25079167	-69.60864167	GDN	–	283.3	K5	Ib	0	0	0	1	10.01	9.16	8.87	8.72	8.89	8.47	8.29
LMC157	LMC	83.26566667	-69.32808611	GDN	–	267.1	M2	Iab	0	0	0	1	10.16	9.36	9.02	8.88	9.07	8.43	7.73
LMC158	LMC	83.27775000	-69.84486389	GDN	–	276.8	Unk	C	0	0	0	1	12.43	11.40	10.98	10.63	10.66	10.67	9.56
LMC159	LMC	83.29775000	-68.88183611	GDN	–	261.7	K4	Iab-Ib	0	0	0	1	10.39	9.57	9.31	9.15	9.36	9.08	8.17
LMC160	LMC	83.30275000	-70.01153611	GDN	–	31.1	K4.5	V	0	0	0	1	10.62	10.05	9.91	–	–	–	–
LMC161	LMC	83.31383333	-69.68689722	GDN	–	280.5	Unk	C	0	0	0	1	12.16	11.09	10.62	10.02	10.07	9.47	9.66
LMC162	LMC	83.33225000	-69.36101389	GDN	–	269.4	K3.5	Iab-Ib	0	0	0	1	10.67	9.90	9.59	9.40	9.58	9.12	7.68
LMC163	LMC	83.35491667	-69.67344722	GDN	–	234.4	Unk	C	0	0	0	1	12.20	11.16	10.70	10.40	10.27	9.17	8.81
LMC164	LMC	83.35741667	-68.99935833	GDN	–	289.2	K2	Iab-Ib	0	0	0	1	10.39	9.53	9.26	9.10	9.26	8.94	7.96
LMC166	LMC	83.36750000	-69.60221111	GDN	–	253.7	Unk	C	0	0	0	1	12.54	11.44	10.98	10.50	10.52	9.53	8.28
LMC167	LMC	83.41391667	-69.18128889	GDN	–	262.2	M2.5	Iab	0	0	0	1	10.20	9.35	9.04	8.82	8.93	8.63	9.50
LMC168	LMC	83.42145833	-69.31575000	GDN	–	269.8	M2	Iab	0	0	0	1	10.11	9.31	8.99	8.83	9.00	8.31	7.33
LMC169	LMC	83.42808333	-70.11598889	GDN	–	203.4	M3	Ia-Iab	0	0	0	1	9.55	8.67	8.38	8.23	8.36	7.97	7.38
LMC171	LMC	83.43600000	-68.63815278	GDN	–	283.2	Unk	C	0	0	0	1	12.06	11.05	10.58	10.27	10.36	9.57	8.95
LMC172	LMC	83.44958333	-70.38394167	GDN	–	256.4	M2	Iab-Ib	0	0	0	1	11.81	10.95	10.64	10.57	10.75	10.74	9.78
LMC174	LMC	83.47029167	-69.51842500	GDN	–	227.0	M4.5	Ib	0	0	0	1	12.15	11.19	10.86	10.62	10.73	10.19	9.38
LMC175	LMC	83.50645833	-68.86192222	GDN	–	286.2	K4	Iab-Ib	0	0	0	1	10.41	9.61	9.38	9.26	9.43	9.18	9.60
LMC176	LMC	83.52470833	-70.11810278	GDN	–	258.4	M1	Ib-II	0	0	0	1	12.06	11.14	10.82	10.66	10.83	9.84	8.19
LMC177	LMC	83.54425000	-69.67989167	GDN	–	247.6	Unk	C	0	0	0	1	12.37	11.25	10.70	–	–	–	–
LMC178	LMC	83.55854167	-68.97886667	GDN	–	296.1	M5	Ib-II	0	0	0	1	9.27	8.37	7.96	7.52	7.41	5.50	4.07
LMC179	LMC	83.57650000	-69.03836111	GDN	–	285.9	K3	Iab-Ib	0	0	0	1	10.46	9.69	9.38	9.22	9.40	9.21	8.95
LMC180	LMC	83.60391667	-69.39351667	GDN	–	289.8	K5	Ia-Iab	0	0	0	1	9.40	8.58	8.22	8.23	8.20	6.58	5.12
LMC181	LMC	83.61379167	-70.13256111	GDN	–	273.4	Unk	C	0	0	0	1	12.39	11.27	10.73	10.30	10.19	9.03	8.89
LMC182	LMC	83.61745833	-70.28701111	GDN	–	240.0	K4	Ib	0	0	0	1	11.29	10.54	10.27	10.16	10.34	9.94	8.65
LMC183	LMC	83.62237500	-69.13186667	GDN	–	271.1	K5	Iab-Ib	0	0	0	1	10.22	9.33	8.98	8.80	8.95	8.38	7.83
LMC184	LMC	83.62558333	-68.67884167	GDN	–	66.8	K4	II	0	0	0	1	8.59	7.85	7.61	7.47	7.70	7.56	7.68
LMC187	LMC	83.67904167	-69.20756389	GDN	–	284.8	K4.5	Iab	0	0	0	1	10.26	9.37	9.08	8.94	9.09	8.53	8.27
LMC189	LMC	83.70820833	-69.33083333	GDN	–	265.7	K2	Iab-Ib	0	0	0	1	10.71	9.98	9.69	9.57	9.75	9.61	9.26
LMC190	LMC	83.71662500	-70.26295556	GDN	–	7.3	K2.5	III	0	0	0	1	10.48	9.82	9.66	9.58	9.72	9.66	9.54
LMC191	LMC	83.71675000	-69.53779722	GDN	–	240.7	M4	III	0	0	0	1	12.28	11.34	10.97	10.74	10.74	9.89	7.43
LMC192	LMC	83.72016667	-69.69956944	GDN	–	262.6	M3.5	Ib	0	0	0	1	12.11	11.17	10.80	10.68	10.85	11.72	8.75
LMC193	LMC	83.72362500	-68.77766389	GDN	–	248.1	K3.5	II	0	0	0	1	7.30	6.55	6.33	6.27	6.25	6.25	6.24
LMC194	LMC	83.72404167	-69.13391111	GDN	–	268.6	G3	Ia	0	0	0	1	10.56	9.96	9.69	9.34	9.38	8.62	6.39

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
LMC195	LMC	83.74916667	-69.21024167	GDN	–	281.9	K4	Iab-Ib	0	0	0	1	10.32	9.48	9.16	8.94	9.11	8.79	7.33
LMC196	LMC	83.77612500	-69.74896111	GDN	–	266.4	M5.5	Iab	0	0	0	1	11.49	10.55	10.21	10.06	10.15	10.52	9.25
LMC197	LMC	83.82533333	-69.68802500	GDN	–	264.9	M3.5	II	0	0	0	1	12.06	11.17	10.85	10.68	10.83	11.53	9.11
LMC198	LMC	83.84066667	-69.22770833	GDN	–	267.2	K4	Iab	0	0	0	1	10.05	9.17	8.89	8.69	8.87	9.57	6.36
LMC199	LMC	83.84075000	-69.71297500	GDN	–	273.4	M1.5	Ia-Iab	0	0	0	1	9.51	8.64	8.36	8.15	8.29	7.04	5.82
LMC200	LMC	83.84270833	-69.03974167	GDN	–	293.3	M0	Iab	0	0	0	1	9.95	9.09	8.75	8.51	8.60	8.12	7.29
LMC201	LMC	83.84800000	-69.94748611	GDN	–	251.9	M2	Ib-II	0	0	0	1	11.63	10.70	10.39	–	–	–	–
LMC202	LMC	83.85962500	-69.46727778	GDN	–	272.8	M3	Iab	0	0	0	1	9.59	8.74	8.43	8.33	8.53	8.21	8.51
LMC203	LMC	83.87208333	-69.73149167	GDN	–	265.2	K5	Ib	0	0	0	1	10.12	9.23	8.95	8.83	9.02	9.14	9.29
LMC204	LMC	83.88091667	-68.56520833	GDN	–	40.4	G8.5	III	0	0	0	1	7.86	7.30	7.16	6.98	7.16	7.09	7.16
LMC205	LMC	83.88187500	-70.17563611	GDN	–	267.1	Unk	C	0	0	0	1	11.93	10.86	10.44	–	–	–	–
LMC207	LMC	83.92125000	-69.19989722	GDN	–	263.3	M0	Ia-Iab	0	0	0	1	9.56	8.52	8.07	7.55	7.30	5.71	3.64
LMC208	LMC	83.92958333	-69.63673333	GDN	–	268.4	M3	II	0	0	0	1	12.11	11.21	10.90	–	–	–	–
LMC209	LMC	83.95591667	-69.08206944	GDN	–	292.4	K4	Iab	0	0	0	1	10.25	9.36	9.01	8.77	8.92	8.61	8.32
LMC210	LMC	83.95816667	-70.16535278	GDN	–	281.6	M3	III	0	0	0	1	12.00	11.05	10.75	10.59	10.76	10.68	9.68
LMC211	LMC	83.95958333	-69.61888889	GDN	–	273.8	M2	Iab	0	0	0	1	9.45	8.54	8.12	7.89	7.90	6.24	4.55
LMC212	LMC	83.97779167	-69.81888611	GDN	–	239.7	M4.5	II	0	0	0	1	11.96	11.06	10.68	10.59	10.69	10.42	9.44
LMC213	LMC	83.98450000	-69.29743889	GDN	–	277.2	M2.5	Ia-Iab	0	0	0	1	9.86	9.15	8.82	8.34	8.17	6.53	5.34
LMC214	LMC	84.00712500	-69.66490833	GDN	–	291.2	Unk	C	0	0	0	1	12.63	11.31	10.67	10.06	10.04	7.84	5.20
LMC215	LMC	84.01904167	-69.49080833	GDN	–	269.8	K4	Iab-Ib	0	0	0	1	10.60	9.81	9.53	9.34	9.49	8.95	8.17
LMC216	LMC	84.03300000	-69.20918333	GDN	–	282.0	K4	Iab-Ib	0	0	0	1	10.05	9.14	8.84	8.64	8.80	8.76	9.32
LMC217	LMC	84.04079167	-69.17662778	GDN	–	284.0	M3.5	Ia-Iab	0	0	0	1	9.84	8.91	8.47	8.27	8.28	6.93	5.65
LMC218	LMC	84.10845833	-69.32476111	GDN	–	285.2	M0.5	Iab	0	0	0	1	9.89	9.03	8.71	8.57	8.68	7.47	6.32
LMC219	LMC	84.12029167	-70.03721667	GDN	–	261.5	M0	II	0	0	0	1	12.18	11.25	10.84	10.54	10.68	10.05	9.08
LMC220	LMC	84.12970833	-69.83542500	GDN	–	281.5	M2	Ib-II	0	0	0	1	10.37	9.50	9.19	9.03	9.16	8.62	7.91
LMC221	LMC	84.17041667	-70.27278056	GDN	–	282.9	Unk	C	0	0	0	1	12.23	11.06	10.48	10.05	10.13	9.12	8.37
LMC222	LMC	84.17358333	-68.76950000	GDN	–	49.2	K2	III	0	0	0	1	9.69	9.07	8.91	8.84	8.96	8.90	9.31
LMC224	LMC	84.19800000	-69.16954722	GDN	–	286.0	K4	Iab-Ib	0	0	0	1	10.40	9.56	9.21	9.10	9.25	9.43	7.23
LMC225	LMC	84.20075000	-69.27844167	GDN	–	284.0	K5	Iab-Ib	0	0	0	1	10.43	9.55	9.23	9.07	9.25	8.76	8.79
LMC226	LMC	84.20200000	-69.24317222	GDN	–	284.8	K4.5	Ia-Iab	0	0	0	1	9.97	8.95	8.51	8.03	7.92	6.08	4.49
LMC227	LMC	84.22645833	-69.57281389	GDN	–	293.4	Unk	C	0	0	0	1	11.84	10.77	10.29	9.89	9.90	9.30	9.32
LMC228	LMC	84.23179167	-68.89061667	GDN	–	276.8	K4	Ib	0	0	0	1	10.64	9.89	9.63	9.50	9.66	9.65	9.51
LMC229	LMC	84.26108333	-70.05941111	GDN	–	16.4	M1	III	0	0	0	1	7.67	6.88	6.59	6.53	6.66	6.51	6.28
LMC230	LMC	84.30629167	-69.14294444	GDN	–	289.6	M3	Ia-Iab	0	0	0	1	9.72	8.72	8.29	8.04	8.07	6.67	4.87
LMC231	LMC	84.39991667	-69.20828333	GDN	–	287.6	K4	Iab-Ib	0	0	0	1	10.28	9.36	9.07	8.92	9.03	8.17	4.07
LMC232	LMC	84.44775000	-68.60572222	GDN	–	267.2	K4	Iab-Ib	0	0	0	1	10.02	9.18	8.92	–	–	–	–
LMC233	LMC	84.46854167	-70.10298889	GDN	–	269.1	Unk	C	0	0	0	1	12.05	11.00	10.58	10.22	10.31	11.10	8.95
LMC234	LMC	84.47766667	-69.15090833	GDN	–	260.3	K4.5	Iab-Ib	0	0	0	1	10.30	9.39	9.07	8.92	9.12	9.22	6.85
LMC236	LMC	84.52733333	-69.47923333	GDN	–	259.7	K5	Iab	0	0	0	1	10.10	9.30	9.05	8.84	8.93	7.20	5.59
LMC237	LMC	84.52745833	-69.06256111	GDN	–	261.7	K4	Iab-Ib	0	0	0	1	10.54	9.68	9.41	9.26	9.42	11.04	8.03
LMC238	LMC	84.57075000	-69.72508889	GDN	–	282.0	Unk	Unk	0	0	0	1	11.63	10.85	10.63	–	–	–	–
LMC239	LMC	84.57087500	-69.06693889	GDN	–	263.0	K4	Iab	0	0	0	1	10.08	9.19	8.87	8.52	8.51	8.19	4.56
LMC240	LMC	84.57641667	-69.85866389	GDN	–	22.0	M3.5	II	0	0	0	1	7.73	6.88	6.61	6.57	6.67	6.53	6.42

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
LMC241	LMC	84.58429167	-69.62566389	GDN	–	98.2	M6	III	0	0	0	1	7.59	6.69	6.30	6.23	6.16	5.67	5.00
LMC242	LMC	84.60829167	-69.37874722	GDN	–	270.6	K5	Ia-Ib	0	0	0	1	10.03	9.22	8.93	8.76	8.95	8.60	9.10
LMC243	LMC	84.61129167	-69.14798056	GDN	–	275.7	K5	Ia-Iab	0	0	0	1	9.78	8.75	8.34	7.94	8.00	5.56	1.58
LMC244	LMC	84.64387500	-69.57767500	GDN	–	270.7	M1	Ia-Iab	0	0	0	1	9.78	8.84	8.43	8.13	8.17	6.91	5.73
LMC245	LMC	84.67716667	-68.87754722	GDN	–	-36.0	K2	IV-V	0	0	0	1	10.93	10.37	10.23	10.16	10.22	10.81	9.46
LMC246	LMC	84.67754167	-70.07891111	GDN	–	282.6	Unk	C	0	0	0	1	12.31	11.21	10.74	10.28	10.34	10.01	9.24
LMC247	LMC	84.68037500	-69.83235833	GDN	–	281.9	Unk	C	0	0	0	1	12.53	11.15	10.45	9.76	9.76	8.66	7.65
LMC248	LMC	84.70200000	-69.09238333	GDN	–	257.8	M3.5	Ia	0	0	0	1	9.17	8.30	7.87	7.59	7.85	4.18	–
LMC249	LMC	84.70554167	-69.45180556	GDN	–	16.9	M0	III	0	0	0	1	7.40	6.62	6.39	6.29	6.38	6.08	4.23
LMC250	LMC	84.76770833	-69.60108889	GDN	–	252.2	M0.5	Iab	0	0	0	1	9.46	8.59	8.17	8.01	8.19	8.34	6.68
LMC252	LMC	84.88475000	-69.58058333	GDN	–	246.8	M0	Ia-Iab	0	0	0	1	8.44	7.61	7.21	6.91	7.06	6.06	5.42
LMC253	LMC	85.07758333	-69.63912222	GDN	–	-5.5	G8	II-III	0	0	0	1	11.15	10.54	10.41	10.30	10.44	9.37	5.51
LMC254	LMC	85.18641667	-68.94115278	GDN	–	25.9	K0	II-III	0	0	0	1	7.26	6.74	6.55	6.50	6.58	6.52	6.51
LMC255	LMC	85.20308333	-69.48796667	GDN	–	32.4	K1	III	0	0	0	1	8.89	8.36	8.18	8.12	8.22	8.21	8.74
LMC256	LMC	85.20779167	-69.37931111	GDN	–	264.6	M1	Iab	0	0	0	1	9.50	8.58	8.19	7.91	7.88	6.25	4.41
LMC257	LMC	85.22237500	-69.75691111	GDN	–	252.4	M1.5	Iab	0	0	0	1	10.29	9.26	8.89	8.60	8.68	7.60	6.10
LMC258	LMC	85.23275000	-69.69343611	GDN	–	253.2	K5.5	Iab	0	0	0	1	10.34	9.44	9.10	8.85	9.00	8.29	7.71
LMC259	LMC	85.27166667	-69.58906667	GDN	–	76.4	K1.5	III	0	0	0	1	10.73	10.17	9.94	9.86	9.96	9.26	6.86
LMC260	LMC	85.28404167	-69.92942778	GDN	–	240.3	K4.5	Iab-Ib	0	0	0	1	10.15	9.36	9.12	8.96	9.16	8.68	7.02
LMC261	LMC	85.30712500	-69.56752778	GDN	–	251.9	K4	Iab-Ib	0	0	0	1	10.27	9.41	9.06	8.85	9.03	8.63	9.23
LMC262	LMC	85.38904167	-69.79458611	GDN	–	240.1	M2	Iab	0	0	0	1	9.32	8.45	8.18	7.90	8.04	7.17	5.96
LMC263	LMC	85.52950000	-69.04812500	GDN	–	279.1	K2.5	Iab	0	0	0	1	10.51	9.67	9.38	9.27	9.45	9.08	8.80
LMC264	LMC	85.62725000	-69.81594722	GDN	–	266.2	M3.5	III	0	0	0	1	10.80	9.87	9.52	9.40	9.46	8.87	8.81
123778	LMC	80.36650000	-69.50450833	Massey	No	273.8	M3.5	Ia	1	0	0	1	9.31	8.50	8.14	7.89	7.82	5.86	4.49
124836	LMC	80.43283333	-69.35709444	Massey	–	267.5	K5	Iab	0	0	0	1	10.36	9.50	9.17	9.04	9.23	8.47	7.93
128130	LMC	80.62958333	-69.56810000	Massey	No	266.3	M2	Ia-Iab	1	0	0	1	9.78	8.96	8.65	8.48	8.54	7.54	7.01
130426	LMC	80.76154167	-69.34361944	Massey	No	257.2	M2	Iab	1	0	0	1	9.62	8.83	8.51	8.33	8.51	7.70	6.46
131735	LMC	80.89166667	-69.31855833	Massey	No	234.5	K3.5	Ia-Iab	1	0	0	1	9.83	9.13	8.90	8.74	8.93	8.52	8.12
134383	LMC	81.43687500	-69.08023056	Massey	No	278.0	M4	Iab	1	0	0	1	9.18	8.34	7.99	7.59	7.59	6.02	4.75
135720	LMC	81.61412500	-69.18220556	Massey	No	276.2	M4.5	Iab	1	0	0	1	8.93	8.08	7.71	7.42	7.42	5.35	4.00
135754	LMC	81.61758333	-69.13266667	Massey	No	280.3	M1	Iab	1	0	0	1	9.61	8.76	8.48	8.30	8.47	7.49	6.36
136042	LMC	81.64500000	-68.86112222	Massey	No	269.1	M4	Ia-Iab	1	0	0	1	8.49	7.60	7.26	6.85	6.79	5.18	4.10
136348	LMC	81.67533333	-68.94409167	Massey	–	281.1	M0	Iab-Ib	1	0	0	0	9.70	8.82	8.55	8.33	8.48	7.84	7.12
136378	LMC	81.67800000	-68.95365833	Massey	No	296.4	M2	Ia-Iab	1	0	0	1	9.61	8.83	8.55	8.13	8.11	6.72	5.38
137624	LMC	81.79295833	-69.27154444	Massey	Yes	280.8	M2	Iab	1	0	0	0	9.81	9.00	8.78	8.65	8.77	8.04	6.74
137624	LMC	81.79295833	-69.27154444	Massey	Yes	279.1	K5	Iab	0	0	0	1	9.81	9.00	8.78	8.65	8.77	8.04	6.74
137818	LMC	81.80929167	-69.18631667	Massey	Yes	275.5	M4.5	Ia-Iab	1	0	0	0	9.36	8.55	8.19	7.83	7.84	6.45	5.06
137818	LMC	81.80929167	-69.18631667	Massey	Yes	273.4	M2	Ia	0	0	0	1	9.36	8.55	8.19	7.83	7.84	6.45	5.06
138405	LMC	81.86141667	-69.00052500	Massey	No	274.0	K5	Iab-Ib	1	0	0	1	9.73	8.94	8.67	8.51	8.68	7.75	6.93
138475	LMC	81.86687500	-69.01002500	Massey	–	271.9	K5	Iab-Ib	1	0	0	0	9.40	8.59	8.32	8.16	8.29	7.19	6.04
139027	LMC	81.91520833	-69.15033611	Massey	No	279.2	M0.5	Iab	1	0	0	1	9.06	8.25	7.97	7.73	7.93	7.29	4.68
139413	LMC	81.94783333	-69.22236667	Massey	No	282.7	M4	Iab	1	0	0	1	8.81	8.00	7.60	7.50	7.37	5.26	4.07
139591	LMC	81.96304167	-69.17945000	Massey	Yes	264.6	M3	Ia	1	0	0	0	9.45	8.63	8.29	8.13	8.18	7.80	8.10

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
139591	LMC	81.96304167	-69.17945000	Massey	Yes	265.7	M1.5	Ib-II	0	0	0	1	9.45	8.63	8.29	8.13	8.18	7.80	8.10
140006	LMC	82.00020833	-69.12844722	Massey	No	267.6	M2	Ia	1	0	0	1	9.99	9.29	8.99	8.86	8.74	7.21	5.83
140296	LMC	82.02487500	-69.12037778	Massey	No	268.8	M4	Ia	1	0	0	1	9.42	8.58	8.15	7.64	7.55	5.85	4.56
140403	LMC	82.03358333	-69.21971944	Massey	No	269.3	M3	Ia	1	0	0	1	9.19	8.36	8.00	7.94	7.88	6.11	4.68
140782	LMC	82.06620833	-69.20027222	Massey	No	266.0	M2	Iab	1	0	0	1	9.62	8.80	8.51	8.39	8.60	8.26	7.76
140912	LMC	82.07745833	-69.12633611	Massey	Yes	275.1	M0	Iab	1	0	0	0	9.49	8.66	8.31	8.14	8.28	7.11	6.09
140912	LMC	82.07745833	-69.12633611	Massey	Yes	277.3	M3	Ia-Iab	0	0	0	1	9.49	8.66	8.31	8.14	8.28	7.11	6.09
141377	LMC	82.11637500	-69.21592778	Massey	–	275.1	G2	Ia	0	0	0	1	8.97	8.67	8.38	–	–	–	–
SP7746-32	LMC	82.12025000	-68.11885833	Massey	–	238.3	M2	Ia	1	0	0	0	8.61	7.80	7.48	6.87	6.89	5.21	4.00
141507	LMC	82.12641667	-69.01235278	Massey	No	280.2	M0	Iab	1	0	0	1	9.65	8.77	8.50	8.29	8.42	7.40	6.29
141568	LMC	82.13150000	-69.09196389	Massey	No	268.8	M4	Ia-Iab	1	0	0	1	9.29	8.40	8.05	7.80	7.87	6.51	5.12
SP7746-34	LMC	82.14995833	-68.43755278	Massey	–	287.0	M3.5	Ia-Iab	1	0	0	0	9.06	8.29	7.87	7.59	7.65	6.22	4.96
SP7746-31	LMC	82.15250000	-68.71069167	Massey	No	274.5	M2.5	Ia-Iab	1	0	0	1	9.06	8.26	7.92	7.72	7.78	6.54	5.74
142202	LMC	82.18950000	-68.96730000	Massey	Yes	275.4	K3	Iab	1	0	0	0	8.71	7.94	7.55	7.24	7.44	6.28	5.31
142202	LMC	82.18950000	-68.96730000	Massey	Yes	276.2	M3	Iab	0	0	0	1	8.71	7.94	7.55	7.24	7.44	6.28	5.31
142907	LMC	82.25325000	-68.77597778	Massey	No	272.9	M3	Iab	1	0	0	1	9.56	8.74	8.44	8.24	8.32	7.11	5.81
143035	LMC	82.26450000	-69.11283056	Massey	No	269.3	M3.5	Ia	1	0	0	1	9.10	8.26	7.90	7.43	7.21	5.31	3.94
143280	LMC	82.28500000	-69.20510833	Massey	No	273.2	M2	Iab	1	0	0	1	9.46	8.67	8.35	8.07	8.20	7.11	5.62
143877	LMC	82.33750000	-68.79204722	Massey	No	271.8	K4.5	Iab	1	0	0	1	8.95	8.25	7.97	7.74	7.88	7.22	6.70
143898	LMC	82.33929167	-69.00561389	Massey	No	282.2	K5	Iab	1	0	0	1	8.83	8.03	7.75	7.34	7.43	5.89	4.83
SP7746-40	LMC	82.33975000	-68.73643611	Massey	No	276.0	K4.5	Iab-Ib	1	0	0	1	9.59	8.73	8.53	8.38	8.56	7.77	6.85
144217	LMC	82.36491667	-69.14730000	Massey	No	270.8	M3	Ia	1	0	0	1	8.41	7.67	7.30	6.67	6.63	4.93	3.99
145013	LMC	82.42587500	-68.95482500	Massey	No	271.2	M2.5	Ia-Iab	1	0	0	1	7.92	7.19	6.89	6.74	6.80	5.53	4.46
145112	LMC	82.43316667	-69.09719167	Massey	No	269.2	M2.5	Ia-Iab	1	0	0	1	8.99	8.18	7.88	7.61	7.67	6.32	5.01
145716	LMC	82.47812500	-69.07102222	Massey	No	283.7	K5	Iab	1	0	0	1	9.42	8.69	8.41	8.23	8.37	7.58	6.74
146244	LMC	82.51912500	-68.79135000	Massey	No	275.2	K4	Iab-Ib	1	0	0	1	9.80	9.03	8.77	8.65	8.85	8.20	7.53
146266	LMC	82.52058333	-69.06658889	Massey	No	270.1	M0	Iab-Ib	1	0	0	1	9.90	9.07	8.81	8.64	8.79	7.88	7.01
146548	LMC	82.53987500	-69.18435000	Massey	No	275.1	K5	Iab-Ib	1	0	0	1	9.84	8.94	8.64	8.41	8.54	8.00	7.19
147479	LMC	82.60954167	-69.50676111	Massey	No	260.7	M1	Ia-Iab	1	0	0	1	9.60	8.82	8.48	8.24	8.35	7.24	5.80
148035	LMC	82.64804167	-68.98984444	Massey	No	280.8	M4	Ia-Iab	1	0	0	1	8.75	7.90	7.55	7.40	7.39	5.72	4.36
148381	LMC	82.67266667	-69.25937778	Massey	No	285.7	M4	Ia-Iab	1	0	0	1	8.75	7.99	7.59	7.44	7.36	5.52	4.12
148409	LMC	82.67495833	-69.08977500	Massey	No	271.6	M2.5	Iab	1	0	0	1	9.89	9.08	8.76	8.58	8.68	7.64	6.42
149560	LMC	82.75191667	-69.17778056	Massey	No	279.6	K4	Iab-Ib	1	0	0	1	10.73	9.85	9.55	–	–	–	–
149721	LMC	82.76433333	-69.09446111	Massey	No	272.5	K5	Iab-Ib	1	0	0	1	9.62	8.79	8.58	8.39	8.57	8.25	7.35
149767	LMC	82.76741667	-69.31751944	Massey	No	278.1	M3.5	Ia	1	0	0	1	9.02	8.06	7.63	6.91	6.67	4.99	4.05
150396	LMC	82.81437500	-69.06635278	Massey	No	272.9	M2.5	Ia-Iab	1	0	0	1	9.39	8.52	8.22	8.00	8.04	6.61	5.79
150577	LMC	82.82679167	-69.15783611	Massey	No	268.5	K5	Iab	1	0	0	1	9.78	8.95	8.63	8.36	8.49	8.06	6.80
150976	LMC	82.85670833	-69.35497222	Massey	No	274.7	M1.5	Iab	1	0	0	1	9.81	8.98	8.71	8.55	8.73	8.20	7.57
154311	LMC	83.11425000	-69.28128056	Massey	No	263.5	M1	Iab	1	0	0	1	9.07	8.26	7.96	7.79	7.86	6.45	5.04
154542	LMC	83.13054167	-69.34040833	Massey	No	274.6	M1	Iab-Ib	1	0	0	1	9.74	8.90	8.63	8.48	8.66	8.06	7.00
154729	LMC	83.14708333	-69.13101944	Massey	No	286.1	M2.5	Ia-Iab	1	0	0	1	9.47	8.57	8.26	7.99	8.11	7.07	5.64
SP7753-3	LMC	83.24937500	-68.59857222	Massey	No	279.5	K5	Ia-Iab	1	0	0	1	8.69	8.00	7.65	7.37	7.51	6.47	5.79
158646	LMC	83.46737500	-69.18708889	Massey	Yes	286.7	K5	Ia	1	0	0	0	9.22	8.36	7.90	7.46	7.39	5.57	4.31

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
158646	LMC	83.46737500	-69.18708889	Massey	Yes	285.8	M3	Ia	0	0	0	1	9.22	8.36	7.90	7.46	7.39	5.57	4.31
159893	LMC	83.58116667	-68.99354722	Massey	No	290.9	M1.5	Iab	1	0	0	1	9.63	8.82	8.53	8.35	8.44	7.43	6.12
159974	LMC	83.58929167	-69.36673611	Massey	Yes	252.1	K2	Iab	1	0	0	0	9.91	9.11	8.89	8.74	8.73	8.56	9.60
159974	LMC	83.58929167	-69.36673611	Massey	Yes	256.4	K4.5	Iab	0	0	0	1	9.91	9.11	8.89	8.74	8.73	8.56	9.60
160518	LMC	83.64075000	-69.25065556	Massey	No	304.8	M2	Iab	1	0	0	1	9.46	8.58	8.28	8.09	8.20	7.15	5.77
161078	LMC	83.69591667	-69.48349722	Massey	No	264.6	K5	Iab-Ib	1	0	0	1	10.07	9.28	9.02	—	—	—	—
162635	LMC	83.85216667	-69.06761944	Massey	No	292.9	M2.5	Ia-Iab	1	0	0	1	9.57	8.66	8.23	7.79	7.79	6.25	4.85
163007	LMC	83.88670833	-69.07200000	Massey	No	298.6	M0	Iab	1	0	0	1	9.45	8.57	8.20	8.02	8.16	7.53	5.68
163466	LMC	83.93250000	-68.85581944	Massey	No	285.7	M1	Ia-Iab	1	0	0	1	9.12	8.27	8.04	7.72	7.84	6.42	5.38
163814	LMC	83.96650000	-69.37473333	Massey	No	265.2	K4.5	Iab-Ib	1	0	0	1	9.57	8.71	8.45	8.30	8.42	8.14	8.40
164506	LMC	84.02645833	-68.94465556	Massey	Yes	297.6	K5	Ia-Iab	1	0	0	0	9.55	8.74	8.44	8.25	8.39	8.06	8.09
164506	LMC	84.02645833	-68.94465556	Massey	Yes	291.0	M1	Ib-II	0	0	0	1	9.55	8.74	8.44	8.25	8.39	8.06	8.09
164709	LMC	84.04420833	-68.91115556	Massey	No	286.9	M3.5	Ia-Iab	1	0	0	1	9.16	8.32	7.97	7.49	7.43	5.78	4.56
165242	LMC	84.08491667	-68.93850833	Massey	No	291.5	M3	Ia-Iab	1	0	0	1	9.70	8.74	8.35	8.06	7.95	6.36	5.33
165543	LMC	84.11162500	-69.39761389	Massey	—	270.5	G1	Ia	0	0	0	1	8.48	8.04	7.81	—	—	—	—
166155	LMC	84.16916667	-69.38788611	Massey	No	259.2	K4	Iab	1	0	0	1	9.87	9.06	8.81	8.57	8.61	7.43	6.23
168047	LMC	84.33541667	-69.32740000	Massey	No	262.3	K4	Iab	1	0	0	1	9.42	8.54	8.28	8.04	8.14	7.39	6.61
168290	LMC	84.35983333	-68.79452500	Massey	No	304.2	M0.5	Ia-Iab	1	0	0	1	9.41	8.58	8.23	8.02	8.13	7.27	5.87
168469	LMC	84.37770833	-69.04255000	Massey	No	267.9	K3.5	Iab	1	0	0	1	9.93	9.06	8.72	8.47	8.56	7.98	8.56
168757	LMC	84.40341667	-69.48984444	Massey	Yes	265.6	M0.5	Ib	1	0	0	0	9.46	8.56	8.21	7.95	7.96	6.22	4.84
168757	LMC	84.40341667	-69.48984444	Massey	Yes	265.8	M4.5	Ia	0	0	0	1	9.46	8.56	8.21	7.95	7.96	6.22	4.84
169049	LMC	84.42933333	-69.41665556	Massey	No	267.6	M2.5	Ia-Iab	1	0	0	1	9.06	8.19	7.87	7.65	7.69	6.14	4.50
169142	LMC	84.43791667	-69.34683333	Massey	No	267.4	M4	Ia-Iab	1	0	0	1	8.96	8.18	7.71	7.17	6.97	4.86	3.63
169754	LMC	84.49445833	-69.23999722	Massey	No	276.1	G5	Ia	1	0	0	1	9.53	8.72	8.38	7.96	7.93	7.34	7.03
170079	LMC	84.52770833	-69.29158056	Massey	Yes	258.4	M1	Ia-Iab	1	0	0	0	9.34	8.39	7.91	7.63	7.69	6.20	4.70
170079	LMC	84.52770833	-69.29158056	Massey	Yes	259.5	M3.5	Ia	0	0	0	1	9.34	8.39	7.91	7.63	7.69	6.20	4.70
170452	LMC	84.56670833	-69.16978611	Massey	—	281.1	M4	Ia-Iab	0	0	0	1	9.31	8.34	7.87	7.55	7.33	5.47	2.63
170539	LMC	84.57550000	-69.29516667	Massey	—	259.9	M3	Ia-Iab	0	0	0	1	9.61	8.65	8.30	8.05	8.11	6.80	5.33
173854	LMC	84.94220833	-69.32450833	Massey	—	244.2	M3	Ia-Iab	0	0	0	1	9.70	8.76	8.47	8.27	8.38	7.10	6.07
174324	LMC	85.03175000	-69.33470833	Massey	—	254.7	M3	Iab	0	0	0	1	9.48	8.61	8.29	8.14	8.13	6.83	5.18
174543	LMC	85.07075000	-69.46495833	Massey	—	252.9	M3	Ia	0	0	0	1	9.37	8.49	8.22	8.09	8.07	6.39	5.41
174714	LMC	85.10187500	-69.35472222	Massey	No	257.9	M2	Ia-Iab	1	0	0	1	9.14	8.26	7.85	7.57	7.58	5.93	4.68
174742	LMC	85.10550000	-69.25839167	Massey	No	250.3	M0	Ia-Iab	1	0	0	1	9.77	9.07	8.78	8.46	8.36	6.94	5.91
175015	LMC	85.15387500	-69.43898056	Massey	No	254.9	M3.5	Ia	1	0	0	1	9.49	8.67	8.32	8.17	8.21	6.67	5.47
175188	LMC	85.18233333	-69.36615833	Massey	No	255.9	M3	Ib	1	0	0	1	8.82	7.91	7.45	7.05	7.01	5.49	4.63
175464	LMC	85.23054167	-69.39034167	Massey	—	248.4	M3	Iab	0	0	0	1	8.83	7.87	7.54	7.24	7.38	6.17	4.81
SP7754-35	LMC	85.24662500	-69.43636389	Massey	—	252.5	M0.5	Iab-Ib	1	0	0	0	9.56	8.68	8.38	8.15	8.16	6.67	5.73
175549	LMC	85.24666667	-69.31005000	Massey	—	246.4	M5	Iab	0	0	0	1	8.77	7.94	7.49	7.03	6.92	5.04	3.72
175709	LMC	85.27108333	-69.07843889	Massey	No	253.9	K5	Iab	1	0	0	1	9.23	8.32	7.97	7.75	7.91	6.97	5.88
175746	LMC	85.27870833	-69.28742222	Massey	—	260.4	M2	Iab	0	0	0	1	8.96	8.17	7.77	7.37	7.43	6.04	4.71
SP7754-38	LMC	85.29441667	-69.63446111	Massey	Yes	248.5	M1	Iab	1	0	0	0	8.79	7.98	7.63	7.16	7.17	5.63	4.27
SP7754-38	LMC	85.29441667	-69.63446111	Massey	Yes	257.0	M4	Ia	0	0	0	1	8.79	7.98	7.63	7.16	7.17	5.63	4.27
176135	LMC	85.34033333	-69.53025000	Massey	—	250.0	M2.5	Ia	0	0	0	1	9.00	8.16	7.82	7.54	7.60	6.03	4.54

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
176216	LMC	85.35229167	-69.30358056	Massey	–	259.7	K5	Iab-Ib	0	0	0	1	10.20	9.42	8.93	–	–	–	–
176335	LMC	85.37316667	-69.45447500	Massey	Yes	256.9	K4	Ia-Iab	1	0	0	0	9.59	8.73	8.45	8.25	8.40	7.77	7.10
176335	LMC	85.37316667	-69.45447500	Massey	Yes	254.5	K4	Ib	0	0	0	1	9.59	8.73	8.45	8.25	8.40	7.77	7.10
176695	LMC	85.43045833	-69.47094722	Massey	–	246.1	M0	Iab	0	0	0	1	9.52	8.72	8.41	8.21	8.34	7.21	5.95
176715	LMC	85.43341667	-69.20076667	Massey	–	246.7	K5	Ia-Iab	0	0	0	1	9.58	8.70	8.40	8.12	8.27	7.41	6.29
176890	LMC	85.45875000	-69.35433333	Massey	–	249.2	K5	Ia-Iab	0	0	0	1	9.60	8.79	8.56	8.39	8.53	7.58	6.39
177150	LMC	85.50300000	-69.19360278	Massey	–	248.4	M2	Iab	0	0	0	1	9.90	9.02	8.68	8.46	8.61	7.63	7.07
178066	LMC	85.66066667	-69.16428333	Massey	–	242.1	K5.5	Ia-Iab	0	0	0	1	9.93	9.12	8.82	8.68	8.80	7.84	6.71
8324	SMC	11.82025000	-73.13571944	Massey	No	140.0	G8	Ia-Iab	1	1	1	0	10.46	9.69	9.51	9.38	9.51	9.25	8.55
8367	SMC	11.82558333	-73.17758889	Massey	Yes	137.7	K2	Ia-Iab	0	1	0	0	10.08	9.26	9.04	–	–	–	–
8367	SMC	11.82558333	-73.17758889	Massey	Yes	138.9	K3.5	Ia	2	0	0	0	10.08	9.26	9.04	–	–	–	–
8367	SMC	11.82558333	-73.17758889	Massey	Yes	132.7	G8	Iab	0	0	1	0	10.08	9.26	9.04	–	–	–	–
8930	SMC	11.90370833	-73.07895833	Massey	Yes	126.2	K2.5	Ia-Iab	0	1	0	0	9.47	8.60	8.32	7.88	7.87	7.38	6.65
8930	SMC	11.90370833	-73.07895833	Massey	Yes	132.6	M3	Iab	2	0	0	0	9.47	8.60	8.32	7.88	7.87	7.38	6.65
8930	SMC	11.90370833	-73.07895833	Massey	Yes	132.3	M2	Ia-Iab	0	0	1	0	9.47	8.60	8.32	7.88	7.87	7.38	6.65
9766	SMC	12.00525000	-73.39376667	Massey	No	145.4	K1.5	Iab-Ib	1	1	0	0	10.21	9.40	9.21	9.08	9.22	8.94	7.76
10889	SMC	12.11254167	-73.20336111	Massey	Yes	141.4	K2	Ia	0	1	0	0	8.78	7.99	7.77	7.59	7.68	6.96	5.67
10889	SMC	12.11254167	-73.20336111	Massey	Yes	145.3	K3.5	Ia	2	0	0	0	8.78	7.99	7.77	7.59	7.68	6.96	5.67
10889	SMC	12.11254167	-73.20336111	Massey	Yes	144.0	K5	Ia-Iab	0	0	1	0	8.78	7.99	7.77	7.59	7.68	6.96	5.67
11101	SMC	12.13312500	-73.12892778	Massey	Yes	144.6	K0	Iab-Ib	0	1	0	0	10.32	9.47	9.24	9.04	9.16	8.94	8.49
11101	SMC	12.13312500	-73.12892778	Massey	Yes	145.9	K0.5	Ia-Iab	2	0	0	0	10.32	9.47	9.24	9.04	9.16	8.94	8.49
11101	SMC	12.13312500	-73.12892778	Massey	Yes	143.0	K3.5	Iab	0	0	1	0	10.32	9.47	9.24	9.04	9.16	8.94	8.49
11709	SMC	12.19320833	-73.47249722	Massey	No	147.7	K3.5	Ia-Iab	2	1	0	0	9.51	8.77	8.53	8.38	8.51	8.03	7.19
11939	SMC	12.21604167	-73.37771667	Massey	Yes	141.0	K5	Iab	0	1	0	0	9.63	8.86	8.61	8.39	8.43	7.43	5.93
11939	SMC	12.21604167	-73.37771667	Massey	Yes	143.8	M2	Ia-Iab	2	0	0	0	9.63	8.86	8.61	8.39	8.43	7.43	5.93
11939	SMC	12.21604167	-73.37771667	Massey	Yes	138.5	K3	Ia	0	0	1	0	9.63	8.86	8.61	8.39	8.43	7.43	5.93
12322	SMC	12.25137500	-72.99335556	Massey	Yes	151.2	K3	Ia	0	1	0	0	9.28	8.46	8.28	8.02	8.08	7.48	6.53
12322	SMC	12.25137500	-72.99335556	Massey	Yes	151.1	K3.5	Ia	2	0	0	0	9.28	8.46	8.28	8.02	8.08	7.48	6.53
12322	SMC	12.25137500	-72.99335556	Massey	Yes	142.4	M1.5	Ia	0	0	2	0	9.28	8.46	8.28	8.02	8.08	7.48	6.53
12572	SMC	12.27200000	-73.51888333	Massey	No	233.9	K3.5	III	2	1	1	0	9.20	8.48	8.26	8.15	8.27	8.12	8.16
12707	SMC	12.28416667	-73.23774722	Massey	No	164.8	K1	Ia-Iab	2	1	1	0	10.37	9.56	9.33	9.16	9.27	8.90	9.01
13472	SMC	12.35220833	-73.30386389	Massey	Yes	138.0	M0	Ia	0	1	0	0	9.11	8.48	8.30	8.00	7.98	7.51	7.18
13472	SMC	12.35220833	-73.30386389	Massey	Yes	141.6	G7	Ia-Iab	2	0	0	0	9.11	8.48	8.30	8.00	7.98	7.51	7.18
13472	SMC	12.35220833	-73.30386389	Massey	Yes	143.7	G5.5	Ia	0	0	2	0	9.11	8.48	8.30	8.00	7.98	7.51	7.18
13740	SMC	12.37666667	-73.44731944	Massey	Yes	162.2	K2	Ib-II	0	1	0	0	10.48	9.62	9.39	9.26	9.40	8.56	5.93
13740	SMC	12.37666667	-73.44731944	Massey	Yes	161.5	K2	Iab	1	0	0	0	10.48	9.62	9.39	9.26	9.40	8.56	5.93
13740	SMC	12.37666667	-73.44731944	Massey	Yes	161.6	K3	Iab-Ib	0	0	1	0	10.48	9.62	9.39	9.26	9.40	8.56	5.93
13951	SMC	12.39333333	-73.23609167	Massey	No	131.9	K2	Ia-Iab	2	1	1	0	10.08	9.26	9.05	8.90	9.03	8.74	9.07
15510	SMC	12.52666667	-73.46968056	Massey	No	169.2	K3	Ia-Iab	2	1	1	0	9.59	8.76	8.54	8.33	8.45	7.68	6.77
17656	SMC	12.69650000	-72.71603333	Massey	No	140.5	K0.5	Ia-Iab	2	1	1	0	9.84	9.08	8.92	8.80	8.93	8.66	8.63
18592	SMC	12.76604167	-72.72163333	Massey	Yes	140.3	M1	Ia	0	1	0	0	8.38	7.67	7.42	6.54	6.26	5.30	4.45
18592	SMC	12.76604167	-72.72163333	Massey	Yes	138.4	M3	Ia-Iab	3	0	0	0	8.38	7.67	7.42	6.54	6.26	5.30	4.45
18592	SMC	12.76604167	-72.72163333	Massey	Yes	135.9	M0.5	Ia	0	0	1	0	8.38	7.67	7.42	6.54	6.26	5.30	4.45

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
19551	SMC	12.83408333	-72.82296111	Massey	No	151.2	K1.5	Iab-Ib	2	1	1	0	10.36	9.59	9.38	9.26	9.41	9.14	8.67
19743	SMC	12.84695833	-72.64560833	Massey	Yes	147.4	K2	Ia-Iab	0	1	0	0	9.68	8.90	8.73	8.53	8.54	7.58	6.40
19743	SMC	12.84695833	-72.64560833	Massey	Yes	146.9	M1	Ia-Iab	3	0	0	0	9.68	8.90	8.73	8.53	8.54	7.58	6.40
19743	SMC	12.84695833	-72.64560833	Massey	Yes	153.2	K3.5	Ia	0	0	1	0	9.68	8.90	8.73	8.53	8.54	7.58	6.40
20133	SMC	12.87362500	-73.17900000	Massey	Yes	177.4	K3	Iab-Ib	0	1	0	0	9.22	8.41	8.15	8.09	8.06	6.79	5.57
20133	SMC	12.87362500	-73.17900000	Massey	Yes	174.6	M1.5	Ia	2	0	0	0	9.22	8.41	8.15	8.09	8.06	6.79	5.57
20133	SMC	12.87362500	-73.17900000	Massey	Yes	179.4	K4	Ia	0	0	1	0	9.22	8.41	8.15	8.09	8.06	6.79	5.57
20612	SMC	12.90687500	-72.43321111	Massey	No	162.3	G8.5	Iab	3	1	1	0	10.45	9.74	9.57	9.43	9.55	9.34	8.50
23463	SMC	13.11037500	-72.75447222	Massey	Yes	157.4	K5	Iab	0	1	0	0	9.67	8.96	8.73	8.43	8.43	7.98	7.71
23463	SMC	13.11037500	-72.75447222	Massey	Yes	163.4	M1	Ia-Iab	3	0	0	0	9.67	8.96	8.73	8.43	8.43	7.98	7.71
23463	SMC	13.11037500	-72.75447222	Massey	Yes	161.8	K0	Ia	0	0	1	0	9.67	8.96	8.73	8.43	8.43	7.98	7.71
23700	SMC	13.12808333	-72.44631111	Massey	No	156.8	K0	Iab	3	1	1	0	10.42	9.66	9.44	9.34	9.46	9.24	8.74
25550	SMC	13.26212500	-73.12944722	Massey	No	143.3	K3	Iab	1	1	1	0	10.50	9.68	9.45	9.33	9.46	9.23	9.31
25879	SMC	13.28733333	-72.49404167	Massey	Yes	134.2	K1	Ia-Iab	0	1	0	0	9.36	8.62	8.45	8.16	8.14	7.69	6.96
25879	SMC	13.28733333	-72.49404167	Massey	Yes	144.4	K4	Ia	3	0	0	0	9.36	8.62	8.45	8.16	8.14	7.69	6.96
25879	SMC	13.28733333	-72.49404167	Massey	Yes	135.7	K3	Ia	0	0	1	0	9.36	8.62	8.45	8.16	8.14	7.69	6.96
25888	SMC	13.28795833	-73.06777222	Massey	No	170.0	K3.5	Ia-Iab	2	1	1	0	9.26	8.45	8.22	8.06	8.12	7.59	6.74
26402	SMC	13.32387500	-72.76865278	Massey	Yes	157.8	K2.5	Ia-Iab	0	1	0	0	10.28	9.49	9.27	8.92	9.06	8.66	8.38
26402	SMC	13.32387500	-72.76865278	Massey	Yes	156.0	K3	Iab	3	0	0	0	10.28	9.49	9.27	8.92	9.06	8.66	8.38
26402	SMC	13.32387500	-72.76865278	Massey	Yes	157.8	K0	Ia-Iab	0	0	1	0	10.28	9.49	9.27	8.92	9.06	8.66	8.38
26778	SMC	13.35262500	-73.30877778	Massey	Yes	154.0	K2	Ia-Iab	0	1	0	0	10.19	9.43	9.22	9.06	9.19	8.82	8.65
26778	SMC	13.35262500	-73.30877778	Massey	Yes	152.9	G7	Iab	1	0	0	0	10.19	9.43	9.22	9.06	9.19	8.82	8.65
26778	SMC	13.35262500	-73.30877778	Massey	Yes	159.4	G8	Ia-Iab	0	0	1	0	10.19	9.43	9.22	9.06	9.19	8.82	8.65
27443	SMC	13.40175000	-73.02636667	Massey	No	152.6	K2.5	Iab	2	1	1	0	9.63	8.87	8.64	8.52	8.63	8.14	7.31
27945	SMC	13.44066667	-72.89412778	Massey	Yes	144.9	K0	Iab	0	1	0	0	10.43	9.82	9.62	9.47	9.55	9.20	8.94
27945	SMC	13.44066667	-72.89412778	Massey	Yes	141.2	G6	Iab	2	0	0	0	10.43	9.82	9.62	9.47	9.55	9.20	8.94
27945	SMC	13.44066667	-72.89412778	Massey	Yes	141.6	G5.5	Iab	0	0	1	0	10.43	9.82	9.62	9.47	9.55	9.20	8.94
30135	SMC	13.61191667	-72.88324722	Massey	No	156.5	G7.5	Iab	1	1	1	0	10.34	9.69	9.49	9.24	9.36	8.60	8.22
30616	SMC	13.64954167	-72.57068611	Massey	Yes	139.8	K0	Ia-Iab	0	1	0	0	9.31	8.53	8.34	8.16	8.21	7.63	7.35
30616	SMC	13.64954167	-72.57068611	Massey	Yes	142.8	K2.5	Ia-Iab	3	0	0	0	9.31	8.53	8.34	8.16	8.21	7.63	7.35
30616	SMC	13.64954167	-72.57068611	Massey	Yes	144.4	K1	Ia-Iab	0	0	1	0	9.31	8.53	8.34	8.16	8.21	7.63	7.35
32188	SMC	13.76566667	-73.01020833	Massey	No	165.7	G6	Ia-Iab	1	1	1	0	9.73	9.05	8.86	8.74	8.82	8.49	8.40
33610	SMC	13.86141667	-72.59897500	Massey	Yes	162.3	K2	Iab	0	1	0	0	9.80	9.01	8.76	8.58	8.59	7.74	6.50
33610	SMC	13.86141667	-72.59897500	Massey	Yes	161.4	K5	Ia	3	0	0	0	9.80	9.01	8.76	8.58	8.59	7.74	6.50
33610	SMC	13.86141667	-72.59897500	Massey	Yes	153.1	K4	Ia-Iab	0	0	1	0	9.80	9.01	8.76	8.58	8.59	7.74	6.50
34158	SMC	13.90241667	-72.60669722	Massey	No	138.6	K2	Ia-Iab	3	1	1	0	9.88	9.12	8.91	8.74	8.78	8.29	7.25
35231	SMC	13.97945833	-72.67517778	Massey	Yes	157.0	G3.5	Ia	0	1	0	0	9.99	9.48	9.34	9.18	9.16	8.94	8.71
35231	SMC	13.97945833	-72.67517778	Massey	Yes	165.2	G1	Iab	3	0	0	0	9.99	9.48	9.34	9.18	9.16	8.94	8.71
35231	SMC	13.97945833	-72.67517778	Massey	Yes	157.4	G6	Ia	0	0	1	0	9.99	9.48	9.34	9.18	9.16	8.94	8.71
37994	SMC	14.18108333	-72.50419722	Massey	No	157.0	K2.5	Iab	3	1	1	0	9.78	8.95	8.69	8.52	8.60	8.26	7.78
41778	SMC	14.48458333	-72.29272500	Massey	No	183.4	K1.5	Iab	3	1	1	0	9.97	9.09	8.81	8.56	8.69	8.42	7.91
42319	SMC	14.52725000	-72.35006111	Massey	No	190.7	K1.5	Iab-Ib	3	1	1	0	10.18	9.36	9.14	9.00	9.13	8.82	8.53
42438	SMC	14.53600000	-72.32421944	Massey	No	182.8	K1.5	Iab-Ib	3	1	1	0	10.38	9.60	9.36	9.21	9.34	9.14	9.05

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
43219	SMC	14.59720833	-72.81143333	Massey	No	144.2	K3	Iab-Ib	2	1	1	0	10.17	9.37	9.11	8.97	9.10	8.77	8.72
43725	SMC	14.63804167	-72.32113611	Massey	No	189.0	K1	Iab-Ib	3	1	1	0	10.60	9.77	9.56	9.44	9.57	9.32	8.77
45378	SMC	14.77975000	-72.21911667	Massey	No	184.0	K1	Iab	3	1	1	0	10.04	9.21	9.01	8.88	9.01	8.68	6.74
45850	SMC	14.82016667	-72.41978611	Massey	Yes	148.1	K2	Iab	0	1	0	0	10.15	9.37	9.20	9.06	9.18	8.94	8.69
45850	SMC	14.82016667	-72.41978611	Massey	Yes	148.4	K1	Iab	3	0	0	0	10.15	9.37	9.20	9.06	9.18	8.94	8.69
45850	SMC	14.82016667	-72.41978611	Massey	Yes	149.5	G7	Ia-Iab	0	0	1	0	10.15	9.37	9.20	9.06	9.18	8.94	8.69
46497	SMC	14.88054167	-72.26293889	Massey	Yes	173.9	K3	Iab	0	1	0	0	9.43	8.59	8.31	8.19	8.25	7.63	6.23
46497	SMC	14.88054167	-72.26293889	Massey	Yes	172.2	K5.5	Ia-Iab	3	0	0	0	9.43	8.59	8.31	8.19	8.25	7.63	6.23
46497	SMC	14.88054167	-72.26293889	Massey	Yes	165.4	K5	Iab	0	0	1	0	9.43	8.59	8.31	8.19	8.25	7.63	6.23
46662	SMC	14.89570833	-72.06851944	Massey	Yes	189.0	K3	Iab	0	1	0	0	9.38	8.63	8.35	8.21	8.25	7.56	6.19
46662	SMC	14.89570833	-72.06851944	Massey	Yes	186.5	K1.5	Ia	3	0	0	0	9.38	8.63	8.35	8.21	8.25	7.56	6.19
46662	SMC	14.89570833	-72.06851944	Massey	Yes	183.6	M0.5	Iab	0	0	1	0	9.38	8.63	8.35	8.21	8.25	7.56	6.19
46910	SMC	14.91887500	-72.34886944	Massey	No	162.1	G7.5	Ia-Iab	3	1	1	0	10.23	9.54	9.33	9.17	9.27	9.04	8.54
47757	SMC	15.00241667	-72.32781944	Massey	No	166.8	K0	Ia-Iab	3	1	1	0	9.29	8.50	8.24	8.06	8.04	7.34	6.14
48122	SMC	15.03895833	-72.14562222	Massey	No	181.4	K0.5	Iab	3	1	1	0	9.88	9.14	8.73	8.32	8.44	8.26	8.61
49033	SMC	15.12716667	-71.97345833	Massey	Yes	160.5	K1	Iab	0	1	0	0	9.74	9.02	8.78	8.63	8.74	8.44	8.25
49033	SMC	15.12716667	-71.97345833	Massey	Yes	164.7	G7.5	Ia-Iab	3	0	0	0	9.74	9.02	8.78	8.63	8.74	8.44	8.25
49033	SMC	15.12716667	-71.97345833	Massey	Yes	161.4	G8	Iab	0	0	1	0	9.74	9.02	8.78	8.63	8.74	8.44	8.25
49428	SMC	15.16787500	-72.59982222	Massey	Yes	141.0	K1	Iab	0	1	0	0	10.24	9.51	9.28	9.16	9.28	9.04	8.75
49428	SMC	15.16787500	-72.59982222	Massey	Yes	141.5	G7.5	Iab	3	0	0	0	10.24	9.51	9.28	9.16	9.28	9.04	8.75
49428	SMC	15.16787500	-72.59982222	Massey	Yes	138.2	G7	Iab	0	0	1	0	10.24	9.51	9.28	9.16	9.28	9.04	8.75
49478	SMC	15.17300000	-72.17696389	Massey	No	181.1	K5	Ia-Iab	3	1	1	0	8.96	8.22	7.96	7.92	7.89	7.38	7.09
49990	SMC	15.22562500	-72.86018333	Massey	Yes	190.0	K1	Ia-Iab	0	1	0	0	9.52	8.92	8.68	8.37	8.30	7.88	7.44
49990	SMC	15.22562500	-72.86018333	Massey	Yes	195.8	G5.5	Ia	3	0	0	0	9.52	8.92	8.68	8.37	8.30	7.88	7.44
49990	SMC	15.22562500	-72.86018333	Massey	Yes	192.7	G4	Ia	0	0	1	0	9.52	8.92	8.68	8.37	8.30	7.88	7.44
50237	SMC	15.25133333	-72.22833333	Massey	No	185.1	G8	Ia-Iab	3	1	1	0	10.41	9.62	9.46	9.33	9.47	9.20	8.36
50348	SMC	15.26375000	-72.07762778	Massey	No	172.7	K0	Iab	3	1	1	0	10.29	9.58	9.36	9.24	9.35	9.11	8.79
50360	SMC	15.26520833	-72.04965278	Massey	No	146.1	K1.5	Iab-Ib	3	1	1	0	10.43	9.57	9.39	9.27	9.40	9.16	9.26
50840	SMC	15.31650000	-72.21954167	Massey	Yes	183.7	K3	Iab	0	1	0	0	9.39	8.58	8.37	8.17	8.22	7.36	6.18
50840	SMC	15.31650000	-72.21954167	Massey	Yes	186.9	M0	Ia-Iab	3	0	0	0	9.39	8.58	8.37	8.17	8.22	7.36	6.18
50840	SMC	15.31650000	-72.21954167	Massey	Yes	183.9	M0	Ia-Iab	0	0	1	0	9.39	8.58	8.37	8.17	8.22	7.36	6.18
51000	SMC	15.33304167	-72.08706667	Massey	Yes	185.2	K1	Iab	0	1	0	0	10.22	9.42	9.24	9.09	9.21	8.97	8.57
51000	SMC	15.33304167	-72.08706667	Massey	Yes	191.6	K0	Iab	3	0	0	0	10.22	9.42	9.24	9.09	9.21	8.97	8.57
51000	SMC	15.33304167	-72.08706667	Massey	Yes	175.3	G7	Iab	0	0	1	0	10.22	9.42	9.24	9.09	9.21	8.97	8.57
51265	SMC	15.36212500	-72.02816111	Massey	No	168.4	K1	Iab	3	1	1	0	10.23	9.41	9.23	9.11	9.22	8.94	8.83
51906	SMC	15.43162500	-72.64040278	Massey	No	153.2	K0.5	Iab	3	1	1	0	10.36	9.60	9.36	9.25	9.38	9.14	8.68
52334	SMC	15.47583333	-71.87184167	Massey	Yes	169.8	K3	Iab	0	1	0	0	9.69	8.96	8.70	8.58	8.67	8.16	7.33
52334	SMC	15.47583333	-71.87184167	Massey	Yes	169.6	K4	Ia-Iab	3	0	0	0	9.69	8.96	8.70	8.58	8.67	8.16	7.33
52334	SMC	15.47583333	-71.87184167	Massey	Yes	163.7	M0	Iab	0	0	1	0	9.69	8.96	8.70	8.58	8.67	8.16	7.33
52389	SMC	15.48116667	-72.00815556	Massey	No	192.1	K3.5	Iab	3	1	1	0	9.91	9.10	8.91	8.79	8.92	8.52	7.92
53557	SMC	15.59916667	-72.92256111	Massey	No	177.4	K1.5	Iab	2	1	1	0	10.01	9.24	9.02	8.84	8.98	8.73	8.85
53638	SMC	15.60750000	-72.64921667	Massey	No	158.7	K1	Iab	3	1	1	0	10.40	9.56	9.37	9.20	9.33	9.05	8.60
54111	SMC	15.65529167	-72.27363611	Massey	No	164.8	G6.5	Ia-Iab	3	1	1	0	9.87	9.15	8.97	8.81	8.86	8.59	8.54

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs					2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4	
54300	SMC	15.67529167	-72.62480278	Massey	No	158.7	K1	Iab	3	1	1	0	10.24	9.44	9.22	9.10	9.23	8.95	9.07	
54414	SMC	15.68666667	-72.03102778	Massey	No	179.2	K0	Iab	3	1	1	0	10.34	9.57	9.39	9.23	9.36	9.15	9.43	
54708	SMC	15.71441667	-72.40428333	Massey	Yes	135.2	K1	Ia-Iab	0	1	0	0	10.05	9.30	9.08	8.92	9.02	8.67	8.26	
54708	SMC	15.71441667	-72.40428333	Massey	Yes	140.3	G8	Ia-Iab	3	0	0	0	10.05	9.30	9.08	8.92	9.02	8.67	8.26	
54708	SMC	15.71441667	-72.40428333	Massey	Yes	138.2	G7.5	Iab	0	0	1	0	10.05	9.30	9.08	8.92	9.02	8.67	8.26	
55188	SMC	15.76020833	-72.03138611	Massey	Yes	178.2	K4.5	Ia-Iab	0	1	0	0	9.90	9.01	8.62	8.25	8.07	6.88	5.51	
55188	SMC	15.76020833	-72.03138611	Massey	Yes	182.2	M1.5	Ia	3	0	0	0	9.90	9.01	8.62	8.25	8.07	6.88	5.51	
55188	SMC	15.76020833	-72.03138611	Massey	Yes	186.7	M4.5	Ia	0	0	1	0	9.90	9.01	8.62	8.25	8.07	6.88	5.51	
55275	SMC	15.76791667	-72.57027500	Massey	Yes	215.6	K3.5	Iab	0	1	0	0	9.74	8.89	8.65	8.43	8.50	8.11	7.76	
55275	SMC	15.76791667	-72.57027500	Massey	Yes	214.7	K2.5	Ia-Iab	3	0	0	0	9.74	8.89	8.65	8.43	8.50	8.11	7.76	
55275	SMC	15.76791667	-72.57027500	Massey	Yes	211.0	K5	Iab	0	0	1	0	9.74	8.89	8.65	8.43	8.50	8.11	7.76	
55355	SMC	15.77695833	-72.47651667	Massey	Yes	150.6	K2	Ia-Iab	0	1	0	0	9.84	9.05	8.84	8.56	8.55	8.10	7.90	
55355	SMC	15.77695833	-72.47651667	Massey	Yes	150.5	K4	Ia-Iab	3	0	0	0	9.84	9.05	8.84	8.56	8.55	8.10	7.90	
55355	SMC	15.77695833	-72.47651667	Massey	Yes	149.3	K1	Ia	0	0	1	0	9.84	9.05	8.84	8.56	8.55	8.10	7.90	
55470	SMC	15.78725000	-71.93079444	Massey	Yes	146.8	K0	Iab	0	1	0	0	10.43	9.72	9.55	9.36	9.45	9.26	8.83	
55470	SMC	15.78725000	-71.93079444	Massey	Yes	144.1	G7.5	Iab	3	0	0	0	10.43	9.72	9.55	9.36	9.45	9.26	8.83	
55470	SMC	15.78725000	-71.93079444	Massey	Yes	150.2	K2	Ia-Iab	0	0	1	0	10.43	9.72	9.55	9.36	9.45	9.26	8.83	
55560	SMC	15.79554167	-72.30911389	Massey	No	166.2	K1.5	Iab	3	1	1	0	10.23	9.44	9.22	9.15	9.28	8.97	8.74	
55681	SMC	15.80404167	-72.15731111	Massey	Yes	191.8	K5	Iab	0	1	0	0	9.64	8.85	8.59	8.47	8.48	7.71	6.28	
55681	SMC	15.80404167	-72.15731111	Massey	Yes	191.6	K4	Ia	3	0	0	0	9.64	8.85	8.59	8.47	8.48	7.71	6.28	
55681	SMC	15.80404167	-72.15731111	Massey	Yes	188.0	M1.5	Ia	0	0	1	0	9.64	8.85	8.59	8.47	8.48	7.71	6.28	
55933	SMC	15.82733333	-72.11283056	Massey	Yes	189.9	K1	Ia-Iab	3	0	0	0	10.10	9.36	9.17	8.97	9.03	8.30	7.51	
55933	SMC	15.82733333	-72.11283056	Massey	Yes	186.6	K4	Ia-Iab	0	0	1	0	10.10	9.36	9.17	8.97	9.03	8.30	7.51	
56389	SMC	15.86504167	-72.86937778	Massey	No	156.6	K4	Iab	3	1	1	0	8.80	8.06	7.78	7.57	7.67	6.87	5.62	
56732	SMC	15.89341667	-72.10187500	Massey	Yes	176.3	M0	Iab-Ib	0	1	0	0	9.94	9.12	8.86	8.68	8.79	8.50	8.93	
56732	SMC	15.89341667	-72.10187500	Massey	Yes	177.4	K4	Iab-Ib	3	0	0	0	9.94	9.12	8.86	8.68	8.79	8.50	8.93	
56732	SMC	15.89341667	-72.10187500	Massey	Yes	177.9	K3.5	Iab	0	0	2	0	9.94	9.12	8.86	8.68	8.79	8.50	8.93	
57386	SMC	15.94729167	-72.02108889	Massey	Yes	207.4	M0.5	Iab	0	1	0	0	10.00	9.22	8.97	8.85	8.97	8.71	9.27	
57386	SMC	15.94729167	-72.02108889	Massey	Yes	206.6	K2	Iab	2	0	0	0	10.00	9.22	8.97	8.85	8.97	8.71	9.27	
57472	SMC	15.95420833	-72.03689722	Massey	No	180.3	K1.5	Iab	3	1	1	0	10.00	9.21	8.97	8.80	8.94	8.38	6.37	
58149	SMC	16.01154167	-72.09103333	Massey	No	182.8	K0.5	Iab-Ib	3	1	1	0	10.25	9.47	9.26	9.12	9.24	8.99	8.72	
58472	SMC	16.03962500	-72.83776111	Massey	Yes	188.8	K3	Ia-Iab	0	1	0	0	10.32	9.58	9.35	9.18	9.24	8.76	8.26	
58472	SMC	16.03962500	-72.83776111	Massey	Yes	189.1	K0.5	Iab	3	0	0	0	10.32	9.58	9.35	9.18	9.24	8.76	8.26	
58472	SMC	16.03962500	-72.83776111	Massey	Yes	192.7	K3	Iab	0	0	1	0	10.32	9.58	9.35	9.18	9.24	8.76	8.26	
58738	SMC	16.06454167	-72.75560000	Massey	Yes	166.8	G7	Ia	0	1	0	0	10.47	10.07	9.91	9.20	9.17	8.91	8.87	
58738	SMC	16.06454167	-72.75560000	Massey	Yes	188.8	G4	Ia	3	0	0	0	10.47	10.07	9.91	9.20	9.17	8.91	8.87	
58738	SMC	16.06454167	-72.75560000	Massey	Yes	180.1	G5	Ia	0	0	1	0	10.47	10.07	9.91	9.20	9.17	8.91	8.87	
58839	SMC	16.07375000	-71.95905278	Massey	Yes	195.8	K2	Ib	0	1	0	0	10.40	9.62	9.41	9.24	9.38	9.10	8.90	
58839	SMC	16.07375000	-71.95905278	Massey	Yes	199.2	G8.5	Ia-Iab	3	0	0	0	10.40	9.62	9.41	9.24	9.38	9.10	8.90	
58839	SMC	16.07375000	-71.95905278	Massey	Yes	193.2	G7.5	Iab	0	0	1	0	10.40	9.62	9.41	9.24	9.38	9.10	8.90	
59426	SMC	16.12616667	-72.07671389	Massey	Yes	171.7	K1.5	Ib	0	1	0	0	10.01	9.17	8.96	8.79	8.90	8.47	7.79	
59426	SMC	16.12616667	-72.07671389	Massey	Yes	172.1	K3	Iab-Ib	3	0	0	0	10.01	9.17	8.96	8.79	8.90	8.47	7.79	
59426	SMC	16.12616667	-72.07671389	Massey	Yes	168.9	K4	Iab	0	0	1	0	10.01	9.17	8.96	8.79	8.90	8.47	7.79	

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
59803	SMC	16.15920833	-72.02416944	Massey	Yes	199.7	K0.5	Ia-Iab	0	1	0	0	9.09	8.30	8.10	7.83	7.86	7.09	6.22
59803	SMC	16.15920833	-72.02416944	Massey	Yes	197.3	G7	Ia	3	0	0	0	9.09	8.30	8.10	7.83	7.86	7.09	6.22
59803	SMC	16.15920833	-72.02416944	Massey	Yes	196.5	K3	Ia-Iab	0	0	1	0	9.09	8.30	8.10	7.83	7.86	7.09	6.22
60447	SMC	16.22125000	-72.79698889	Massey	Yes	179.5	K2	Ia-Iab	0	1	0	0	10.27	9.40	9.18	8.96	9.07	8.59	8.05
60447	SMC	16.22125000	-72.79698889	Massey	Yes	178.4	K4	Iab	3	0	0	0	10.27	9.40	9.18	8.96	9.07	8.59	8.05
60447	SMC	16.22125000	-72.79698889	Massey	Yes	177.3	K1.5	Ia-Iab	0	0	1	0	10.27	9.40	9.18	8.96	9.07	8.59	8.05
61296	SMC	16.29833333	-72.04099167	Massey	Yes	167.1	G6	Iab	0	1	0	0	10.19	9.44	9.24	9.04	9.10	8.76	9.11
61296	SMC	16.29833333	-72.04099167	Massey	Yes	171.1	G8	Ia-Iab	3	0	0	0	10.19	9.44	9.24	9.04	9.10	8.76	9.11
61296	SMC	16.29833333	-72.04099167	Massey	Yes	162.5	K2	Iab	0	0	1	0	10.19	9.44	9.24	9.04	9.10	8.76	9.11
62427	SMC	16.41687500	-71.97956667	Massey	Yes	175.3	K0	Ib	0	1	0	0	10.40	9.64	9.44	9.31	9.45	9.28	9.01
62427	SMC	16.41687500	-71.97956667	Massey	Yes	173.9	G7.5	Ia-Iab	3	0	0	0	10.40	9.64	9.44	9.31	9.45	9.28	9.01
62427	SMC	16.41687500	-71.97956667	Massey	Yes	175.7	K0.5	Iab	0	0	1	0	10.40	9.64	9.44	9.31	9.45	9.28	9.01
63114	SMC	16.50562500	-72.87871667	Massey	Yes	202.1	M0	Iab	3	0	0	0	9.80	9.04	8.79	8.72	8.77	8.33	7.86
63114	SMC	16.50562500	-72.87871667	Massey	Yes	199.3	K1	Iab	0	0	1	0	9.80	9.04	8.79	8.72	8.77	8.33	7.86
63131	SMC	16.50712500	-72.40103889	Massey	No	168.9	G7.5	Iab	3	1	1	0	10.51	9.73	9.56	9.42	9.51	9.25	8.78
63188	SMC	16.51333333	-72.87125278	Massey	–	187.8	K4	Iab-Ib	0	1	0	0	10.20	9.43	9.19	9.04	9.14	8.74	8.54
64448	SMC	16.66745833	-72.47923889	Massey	No	157.5	G5	Ia-Iab	3	1	1	0	10.41	9.77	9.58	9.42	9.51	9.31	8.82
64663	SMC	16.69858333	-72.26989722	Massey	Yes	144.9	K3	Ia-Iab	0	1	0	0	9.24	8.52	8.31	7.97	7.92	6.86	5.88
64663	SMC	16.69858333	-72.26989722	Massey	Yes	149.1	K3.5	Ia-Iab	3	0	0	0	9.24	8.52	8.31	7.97	7.92	6.86	5.88
64663	SMC	16.69858333	-72.26989722	Massey	Yes	138.5	G6	Ia	0	0	1	0	9.24	8.52	8.31	7.97	7.92	6.86	5.88
66066	SMC	16.87283333	-72.51268889	Massey	Yes	152.8	K0.5	Iab	0	1	0	0	10.04	9.27	9.09	8.98	9.11	8.86	8.75
66066	SMC	16.87283333	-72.51268889	Massey	Yes	150.5	G7.5	Iab	3	0	0	0	10.04	9.27	9.09	8.98	9.11	8.86	8.75
66066	SMC	16.87283333	-72.51268889	Massey	Yes	151.6	G6.5	Ia-Iab	0	0	1	0	10.04	9.27	9.09	8.98	9.11	8.86	8.75
66694	SMC	16.95383333	-72.39510278	Massey	No	141.3	K1	Ia-Iab	3	1	1	0	9.79	8.98	8.77	8.65	8.78	8.48	8.25
67554	SMC	17.06162500	-72.77805278	Massey	Yes	205.6	K2	Iab	3	0	0	0	10.13	9.40	9.17	9.07	9.19	8.92	8.98
67554	SMC	17.06162500	-72.77805278	Massey	Yes	198.8	G8	Ia-Iab	0	0	1	0	10.13	9.40	9.17	9.07	9.19	8.92	8.98
68648	SMC	17.21691667	-72.38538333	Massey	No	182.9	G7.5	Iab	3	0	1	0	9.68	8.92	8.72	8.64	8.74	8.48	8.50
71566	SMC	17.72287500	-72.42781111	Massey	–	187.0	K0	Ia-Iab	0	0	1	0	10.37	9.59	9.39	9.22	9.30	9.06	8.89
105-11	SMC	13.44966667	-72.03595833	Massey	Yes	148.9	K3.5	Ia-Iab	0	1	0	0	9.27	8.45	8.25	8.30	8.27	7.51	6.12
105-11	SMC	13.44966667	-72.03595833	Massey	Yes	152.6	M1.5	Ia-Iab	2	0	0	0	9.27	8.45	8.25	8.30	8.27	7.51	6.12
105-11	SMC	13.44966667	-72.03595833	Massey	Yes	143.2	K3	Ia	0	0	1	0	9.27	8.45	8.25	8.30	8.27	7.51	6.12
105-21	SMC	13.84312500	-72.27736667	Massey	No	161.1	G7.5	Iab	2	1	1	0	11.07	10.36	10.19	10.08	10.20	10.00	8.97
106-5	SMC	12.96041667	-72.19242222	Massey	Yes	167.7	K0	Iab	0	1	0	0	9.97	9.21	9.00	8.86	8.95	8.62	8.44
106-5	SMC	12.96041667	-72.19242222	Massey	Yes	167.3	K1	Ia-Iab	2	0	0	0	9.97	9.21	9.00	8.86	8.95	8.62	8.44
106-5	SMC	12.96041667	-72.19242222	Massey	Yes	166.0	K3	Ia-Iab	0	0	1	0	9.97	9.21	9.00	8.86	8.95	8.62	8.44
106-9	SMC	13.13116667	-72.19377222	Massey	Yes	166.0	K0	Ia-Iab	0	1	0	0	10.30	9.57	9.41	9.29	9.38	9.07	8.38
106-9	SMC	13.13116667	-72.19377222	Massey	Yes	165.6	G6.5	Ia-Iab	2	0	0	0	10.30	9.57	9.41	9.29	9.38	9.07	8.38
106-9	SMC	13.13116667	-72.19377222	Massey	Yes	165.2	G8	Iab	0	0	1	0	10.30	9.57	9.41	9.29	9.38	9.07	8.38
108-8	SMC	13.72662500	-73.15095556	Massey	No	159.3	G5.5	Ia-Iab	1	1	2	0	10.98	10.41	10.29	10.13	10.25	10.00	9.31
114-3	SMC	13.99495833	-73.34481111	Massey	Yes	171.0	K0	Iab-Ib	0	1	0	0	9.98	9.18	8.98	8.89	9.02	8.73	8.56
114-3	SMC	13.99495833	-73.34481111	Massey	Yes	168.3	K3	Iab-Ib	0	0	1	0	9.98	9.18	8.98	8.89	9.02	8.73	8.56
116-15	SMC	15.66629167	-72.19089444	Massey	No	135.0	G7	Iab-Ib	2	1	1	0	10.96	10.25	10.15	9.97	10.06	9.89	9.36
HV838	SMC	13.90920833	-73.19481667	Massey	–	211.3	K5	Ib	0	1	0	0	10.61	9.86	9.44	8.60	8.31	7.73	7.46

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs					2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4	
SkKM13	SMC	11.26904167	-73.09098889	Massey	No	107.8	M1.5	Ia-Iab	1	1	1	0	9.21	8.38	8.07	7.83	7.73	6.36	5.25	
SkKM63	SMC	12.73350000	-72.25167222	Massey	No	185.7	K4.5	Ia-Iab	2	1	1	0	8.90	8.11	7.85	7.54	7.62	7.02	5.78	
SkKM78	SMC	12.95941667	-72.09932778	Massey	No	166.0	K3.5	Iab	2	1	1	0	9.86	9.02	8.82	8.72	8.84	8.45	8.79	
SkKM89	SMC	13.10554167	-72.42038056	Massey	No	160.1	G8.5	Iab	2	1	0	0	10.36	9.63	9.43	9.29	9.40	9.13	8.44	
SkKM89b	SMC	13.14258333	-72.41452778	Massey	No	140.6	K4	Ib	2	1	0	0	10.90	10.05	9.79	9.70	9.82	9.61	8.87	
SMC001	SMC	7.85441667	-73.48208611	GDN	-	9.6	K1.5	III	0	0	1	0	11.57	10.99	10.87	10.81	10.90	10.85	8.81	
SMC002	SMC	7.95241667	-73.62409167	GDN	-	128.9	K1	IV	0	0	1	0	10.66	10.13	10.03	9.97	10.05	9.93	9.10	
SMC003	SMC	7.96383333	-73.34127778	GDN	-	36.6	K0.5	III	0	0	1	0	10.48	9.98	9.83	9.78	9.86	9.66	8.51	
SMC004	SMC	8.00666667	-73.37628889	GDN	-	146.4	M3	Ia-Iab	0	0	1	0	11.17	10.28	9.97	9.95	9.98	9.54	9.16	
SMC005	SMC	8.01075000	-73.17845833	GDN	-	35.3	G7	V	0	0	1	0	10.31	9.96	9.87	9.84	9.88	9.85	8.74	
SMC006	SMC	8.14216667	-73.76177222	GDN	-	69.2	K3	V	0	0	1	0	10.56	10.15	10.04	9.97	10.05	10.01	8.89	
SMC007	SMC	8.18700000	-73.28522222	GDN	-	48.3	K1	III	0	0	1	0	10.12	9.67	9.50	9.44	9.54	9.42	8.74	
SMC008	SMC	8.32537500	-73.39705833	GDN	-	14.1	G8	II	0	0	1	0	8.81	8.31	8.17	8.09	8.21	8.08	7.91	
SMC009	SMC	8.33350000	-73.68573889	GDN	-	1.9	F9	V	0	0	1	0	9.72	9.52	9.47	-	-	-	-	
SMC010	SMC	8.43862500	-73.99295833	GDN	-	26.7	G0	III-IV	0	0	1	0	10.79	10.56	10.46	-	-	-	-	
SMC011	SMC	8.59745833	-73.33008611	GDN	-	-23.8	F9	V	0	0	1	0	10.62	10.38	10.34	-	-	-	-	
SMC012	SMC	8.60045833	-73.15957500	GDN	-	8.3	G0	III-IV	0	0	1	0	10.07	9.82	9.78	-	-	-	-	
SMC013	SMC	8.62079167	-72.94566389	GDN	-	4.7	K2	III	0	0	1	0	9.11	8.45	8.31	8.22	8.34	8.19	7.92	
SMC014	SMC	8.64308333	-73.87867778	GDN	-	4.7	K3.5	V	0	0	1	0	10.59	10.09	9.97	-	-	-	-	
SMC015	SMC	8.67183333	-73.81678056	GDN	-	18.7	M1	II-III	0	0	1	0	8.30	7.46	7.21	7.10	7.29	7.13	7.10	
SMC016	SMC	8.73866667	-74.00524167	GDN	-	2.7	K1	IV	0	0	1	0	8.86	8.36	8.24	8.20	8.28	8.18	8.09	
SMC017	SMC	8.81570833	-73.66962500	GDN	-	-5.7	K2	V	0	0	1	0	10.72	10.31	10.25	10.19	10.26	10.08	8.75	
SMC018	SMC	8.98916667	-73.73405556	GDN	-	124.0	G8	Ib-II	0	0	1	0	11.81	11.10	10.97	10.86	10.97	10.90	9.44	
SMC019	SMC	9.03833333	-73.72081667	GDN	-	113.4	K3	Ib	0	0	1	0	11.32	10.50	10.26	10.19	10.33	10.13	8.91	
SMC020	SMC	9.06150000	-72.91110278	GDN	-	9.3	G8	V	0	0	1	0	10.22	9.85	9.75	9.69	9.76	9.64	9.39	
SMC021	SMC	9.06245833	-72.79289167	GDN	-	7.5	K4	V	0	0	1	0	10.09	9.65	9.57	9.49	9.57	9.46	8.93	
SMC022	SMC	9.13345833	-73.13500278	GDN	-	35.7	F9	V	0	0	1	0	11.07	10.80	10.69	-	-	-	-	
SMC023	SMC	9.16920833	-73.31921389	GDN	-	26.7	K0	IV	0	0	1	0	10.66	10.19	10.06	10.00	10.08	10.03	9.27	
SMC024	SMC	9.19804167	-73.34536667	GDN	-	120.8	K2	Iab-Ib	0	0	1	0	10.47	9.68	9.47	9.36	9.52	9.24	9.21	
SMC025	SMC	9.29608333	-74.13007500	GDN	-	41.0	K1.5	III	0	0	1	0	11.61	11.03	10.93	10.85	10.93	10.73	9.37	
SMC026	SMC	9.30525000	-73.80600833	GDN	-	38.3	K1	IV-V	0	0	1	0	10.85	10.38	10.25	10.21	10.30	10.23	9.25	
SMC027	SMC	9.49795833	-73.46090833	GDN	-	151.9	G7	Iab	0	0	1	0	11.66	10.94	10.76	10.65	10.80	10.64	9.20	
SMC028	SMC	9.52600000	-73.78005278	GDN	-	112.9	G7	Iab	0	0	1	0	10.34	9.66	9.44	9.31	9.41	9.16	9.14	
SMC029	SMC	9.53083333	-74.11926389	GDN	-	14.1	G2.5	V	0	0	1	0	9.26	8.91	8.84	8.78	8.83	8.77	8.70	
SMC030	SMC	9.57212500	-73.90035278	GDN	-	172.6	K4	Ib	0	0	1	0	11.77	10.95	10.72	10.60	10.72	10.42	8.77	
SMC031	SMC	9.58154167	-73.10164722	GDN	-	8.6	G7	V	0	0	1	0	10.53	10.13	10.05	9.97	10.02	9.90	9.39	
SMC032	SMC	9.60091667	-74.17208889	GDN	-	10.0	M1	V	0	0	1	0	11.00	10.35	10.15	10.05	10.04	9.92	9.27	
SMC033	SMC	9.68445833	-74.14861389	GDN	-	-57.3	G8	III	0	0	1	0	10.94	10.41	10.29	10.22	10.32	10.18	9.17	
SMC034	SMC	9.82454167	-73.02298611	GDN	-	27.7	G7	V	0	0	1	0	9.76	9.39	9.24	9.17	9.22	9.13	9.23	
SMC035	SMC	9.82670833	-73.83037500	GDN	-	14.9	G0.5	V	0	0	1	0	10.69	10.39	10.34	10.27	10.34	10.30	8.96	
SMC036	SMC	9.96116667	-72.66140000	GDN	-	-6.9	K2.5	III	0	0	1	0	10.56	9.88	9.74	9.64	9.77	9.62	9.10	
SMC037	SMC	10.03900000	-73.09494722	GDN	-	28.6	K1	IV	0	0	1	0	10.67	10.21	10.05	10.03	10.12	10.02	8.57	
SMC038	SMC	10.08258333	-73.56961667	GDN	-	22.3	G0	III-IV	0	0	1	0	11.25	10.97	10.94	-	-	-	-	

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
SMC039	SMC	10.11129167	-72.49638333	GDN	–	138.3	M1	Iab	0	0	1	0	12.08	11.20	10.93	10.80	10.94	10.66	8.86
SMC040	SMC	10.11820833	-73.04910278	GDN	–	56.7	G2	V	0	0	1	0	10.18	9.86	9.78	9.72	9.79	9.69	8.41
SMC041	SMC	10.18145833	-72.89819167	GDN	–	-1.4	K1.5	III	0	0	1	0	8.81	8.18	8.09	7.96	8.08	7.96	7.87
SMC042	SMC	10.21995833	-74.25125000	GDN	–	-26.9	G8.5	III-IV	0	0	1	0	11.34	10.82	10.73	10.65	10.73	10.53	9.07
SMC043	SMC	10.22020833	-72.73282500	GDN	–	8.3	K0.5	III	0	0	1	0	9.43	8.80	8.72	8.63	8.74	8.60	8.21
SMC044	SMC	10.30629167	-73.89759167	GDN	–	18.5	K1.5	V	0	0	1	0	11.47	11.07	10.95	10.87	10.91	10.79	9.33
SMC045	SMC	10.41570833	-72.65424167	GDN	–	-11.0	K1	V	0	0	1	0	10.65	10.19	10.08	10.02	10.08	9.95	9.19
SMC046	SMC	10.43158333	-73.48670278	GDN	–	50.5	K2	IV	0	0	1	0	9.68	9.13	9.04	8.94	9.03	8.94	8.63
SMC047	SMC	10.43712500	-73.64648333	GDN	–	7.0	F9	III	0	0	1	0	10.70	10.50	10.43	–	–	–	–
SMC048	SMC	10.50637500	-72.79000000	GDN	–	-34.2	M1	V	0	0	1	0	11.37	10.71	10.49	10.42	10.44	10.22	9.55
SMC049	SMC	10.50804167	-72.87856389	GDN	–	-0.6	K3	V	0	0	1	0	11.43	10.99	10.92	10.84	10.91	10.93	8.96
SMC050	SMC	10.50800000	-73.26892778	GDN	–	30.1	G6.5	V	0	0	1	0	10.27	9.85	9.79	9.71	9.75	9.68	9.29
SMC051	SMC	10.51908333	-72.56963333	GDN	–	97.9	K1	Iab	0	0	1	0	10.31	9.53	9.33	9.18	9.32	9.01	8.76
SMC052	SMC	10.54483333	-74.23209444	GDN	–	45.0	K3	V	0	0	1	0	9.94	9.47	9.43	9.31	9.35	9.37	9.07
SMC053	SMC	10.55208333	-74.39012778	GDN	–	14.9	M1.5	V	0	0	1	0	10.98	10.42	10.13	–	–	–	–
SMC054	SMC	10.57154167	-74.10416389	GDN	–	280.7	Unk	Unk	0	0	1	0	9.40	8.90	8.73	–	–	–	–
SMC055	SMC	10.59845833	-73.41209444	GDN	–	136.2	G8	Iab	0	0	1	0	11.73	11.02	10.88	10.78	10.89	10.76	9.39
SMC056	SMC	10.63070833	-72.82183889	GDN	–	37.0	G8.5	V	0	0	1	0	10.41	10.08	10.01	9.96	10.02	9.95	9.17
SMC057	SMC	10.70012500	-74.06061667	GDN	–	57.5	K2	III	0	0	1	0	10.30	9.68	9.58	9.49	9.58	9.38	8.77
SMC058	SMC	10.70666667	-73.63568056	GDN	–	-5.3	G8	IV	0	0	1	0	10.77	10.30	10.21	10.14	10.22	10.09	9.40
SMC059	SMC	10.71762500	-73.84765000	GDN	–	183.0	M5	II	0	0	1	0	11.30	10.38	9.83	8.91	8.35	6.55	5.39
SMC060	SMC	10.75358333	-73.54618056	GDN	–	-1.3	G1	V	0	0	1	0	10.30	9.98	9.89	9.86	9.90	9.92	9.17
SMC061	SMC	10.81229167	-73.61845278	GDN	–	-10.7	K1	III	0	0	1	0	12.08	11.20	10.97	10.87	11.00	10.71	9.25
SMC062	SMC	10.81958333	-73.83060556	GDN	–	177.5	K4.5	Ib-II	0	0	1	0	12.02	11.20	10.97	10.87	11.00	10.71	9.25
SMC063	SMC	10.83695833	-74.34861667	GDN	–	69.3	K5.5	V	0	0	1	0	11.45	10.84	10.69	10.61	10.69	10.61	9.22
SMC064	SMC	10.90950000	-73.03524722	GDN	–	-10.0	G6.5	V	0	0	1	0	10.45	10.09	10.10	9.99	10.03	9.70	8.02
SMC065	SMC	10.94212500	-73.47790556	GDN	–	117.5	K2	Iab-Ib	0	0	1	0	10.79	9.95	9.73	9.62	9.76	9.50	8.90
SMC066	SMC	10.99429167	-73.47986667	GDN	–	117.8	K0	Iab-Ib	0	0	1	0	11.74	11.00	10.79	10.69	10.82	10.63	8.79
SMC067	SMC	11.02325000	-72.65296944	GDN	–	-32.0	K2	V	0	0	1	0	11.21	10.77	10.70	10.64	10.67	10.70	9.24
SMC068	SMC	11.02358333	-72.76611389	GDN	–	-14.6	K1	III	0	0	1	0	11.70	11.09	10.98	10.89	10.98	10.78	8.99
SMC069	SMC	11.04075000	-73.42960278	GDN	–	52.7	K2.5	IV	0	0	1	0	10.52	9.96	9.83	9.78	9.90	9.82	9.44
SMC070	SMC	11.08608333	-73.76890556	GDN	–	31.4	M2	V	0	0	1	0	11.10	10.42	10.27	–	–	–	–
SMC071	SMC	11.09870833	-72.90013889	GDN	–	-1.9	K0	II-III	0	0	1	0	11.40	10.91	10.79	10.63	10.75	10.66	9.07
SMC072	SMC	11.12466667	-73.50164722	GDN	–	-2.3	F9	V	0	0	1	0	9.30	9.07	9.02	–	–	–	–
SMC073	SMC	11.12933333	-74.23097222	GDN	–	48.6	G2	II	0	0	1	0	9.79	9.26	9.19	9.11	9.19	9.05	8.75
SMC074	SMC	11.17166667	-73.34532778	GDN	–	34.4	G1	V	0	0	1	0	10.39	10.10	10.06	10.01	10.07	10.06	9.34
SMC075	SMC	11.20295833	-72.99910000	GDN	–	18.6	G0	III	0	0	1	0	9.81	9.57	9.51	–	–	–	–
SMC076	SMC	11.22408333	-73.61862778	GDN	–	26.4	G7	V	0	0	1	0	10.77	10.39	10.35	10.28	10.35	10.26	9.11
SMC077	SMC	11.24995833	-73.59108611	GDN	–	112.9	G7.5	Iab	0	0	1	0	11.84	11.06	10.93	10.82	10.94	10.80	8.54
SMC078	SMC	11.25100000	-73.16851111	GDN	–	38.1	K0	II-III	0	0	1	0	11.15	10.61	10.52	10.39	10.41	7.85	1.43
SMC079	SMC	11.26316667	-72.92100556	GDN	–	163.5	G8	Ib	0	0	1	0	11.25	10.46	10.31	10.20	10.33	10.14	9.31
SMC080	SMC	11.28158333	-73.96948333	GDN	–	184.7	G7	Iab-Ib	0	0	1	0	11.79	11.06	10.87	10.76	10.82	10.43	8.88
SMC081	SMC	11.29920833	-73.11925556	GDN	–	-15.9	G3	II-III	0	0	1	0	9.85	9.29	9.16	9.05	9.12	9.04	9.08

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs					2MASS			WISE				
									2010	2011	2012	2013	J	H	K _S	W1	W2	W3	W4		
SMC082	SMC	11.30062500	-73.26931667	GDN	-	56.4	F9	V	0	0	1	0	10.26	10.05	9.95	-	-	-	-	-	-
SMC083	SMC	11.32087500	-73.74495000	GDN	-	37.2	K4	V	0	0	1	0	11.37	10.90	10.82	10.74	10.80	10.62	8.99	8.99	
SMC084	SMC	11.38708333	-72.92829167	GDN	-	147.8	M0	Ib	0	0	1	0	11.94	11.03	10.85	10.71	10.86	10.62	9.14	9.14	
SMC085	SMC	11.39908333	-73.29367778	GDN	-	131.0	K0	Ib	0	0	1	0	11.70	11.01	10.84	10.71	10.82	10.48	9.17	9.17	
SMC086	SMC	11.40325000	-73.14589722	GDN	-	130.3	K2	Ia-Iab	0	0	1	0	10.77	9.89	9.67	9.37	9.49	9.24	8.53	8.53	
SMC087	SMC	11.47529167	-73.43891111	GDN	-	111.9	M4	Ib	0	0	1	0	11.36	10.41	10.09	9.90	9.90	9.55	8.73	8.73	
SMC088	SMC	11.49870833	-72.76359722	GDN	-	164.2	K5.5	Iab-Ib	0	0	1	0	12.07	11.14	10.87	10.77	10.85	10.55	9.44	9.44	
SMC089	SMC	11.51825000	-72.88928889	GDN	-	10.2	F9	III	0	0	1	0	10.60	10.39	10.34	-	-	-	-	-	
SMC090	SMC	11.52375000	-73.20953333	GDN	-	139.4	M0	Ib	0	0	1	0	11.43	10.50	10.29	10.08	10.14	9.75	9.21	9.21	
SMC091	SMC	11.56920833	-72.67651389	GDN	-	66.8	K4	Ia	0	0	1	0	10.10	9.28	9.06	8.80	8.89	8.60	8.22	8.22	
SMC092	SMC	11.58183333	-73.32539444	GDN	-	150.5	K3	Iab	0	0	1	0	10.64	9.80	9.48	9.33	9.44	9.06	9.16	9.16	
SMC093	SMC	11.60020833	-74.37357222	GDN	-	-37.6	K2	III	0	0	1	0	11.77	11.13	10.99	10.92	11.04	10.98	9.01	9.01	
SMC094	SMC	11.60091667	-73.33571667	GDN	-	-15.4	F9	III	0	0	1	0	10.41	10.24	10.18	-	-	-	-	-	
SMC095	SMC	11.61775000	-72.59586389	GDN	No	-6.6	K3	IV	0	0	2	0	6.24	5.46	5.29	5.19	5.14	5.22	5.11	5.11	
SMC096	SMC	11.63866667	-73.43843056	GDN	-	157.5	K3	Ib	0	0	1	0	11.87	11.14	10.96	10.85	10.99	11.15	9.51	9.51	
SMC097	SMC	11.64983333	-74.37744167	GDN	-	-2.2	G7	V	0	0	1	0	9.82	9.50	9.46	9.39	9.43	9.39	9.31	9.31	
SMC098	SMC	11.66483333	-73.62780833	GDN	-	18.6	G8	IV-V	0	0	1	0	11.39	10.96	10.88	10.79	10.85	10.83	9.44	9.44	
SMC099	SMC	11.67366667	-73.38172222	GDN	-	138.6	G7	Ia-Iab	0	0	1	0	11.68	10.88	10.67	10.48	10.61	11.17	8.38	8.38	
SMC100	SMC	11.67391667	-73.02110278	GDN	No	19.0	K3.5	V	0	0	2	0	9.39	8.90	8.73	-	-	-	-	-	
SMC101	SMC	11.69779167	-72.53387500	GDN	No	-14.8	F9.5	V	0	0	2	0	10.17	9.93	9.86	-	-	-	-	-	
SMC103	SMC	11.70329167	-73.56343889	GDN	-	132.0	G5	Ib	0	0	1	0	10.60	10.09	9.99	9.89	9.94	9.88	8.97	8.97	
SMC104	SMC	11.70570833	-73.20191111	GDN	-	121.3	K1	Ib	0	0	1	0	11.79	11.03	10.81	10.70	10.87	10.66	8.63	8.63	
SMC105	SMC	11.71650000	-72.82556111	GDN	-	-59.8	F9	V	0	0	1	0	11.12	10.88	10.82	-	-	-	-	-	
SMC106	SMC	11.73491667	-73.38167500	GDN	-	142.6	K1	Ia-Iab	0	0	1	0	10.71	9.94	9.78	9.61	9.74	9.57	8.92	8.92	
SMC107	SMC	11.73754167	-73.10506389	GDN	-	139.8	K1	II	0	0	1	0	12.09	11.13	10.84	10.70	10.83	10.64	8.91	8.91	
SMC108	SMC	11.75350000	-73.39041111	GDN	-	115.1	M3	Iab	0	0	1	0	10.69	9.80	9.54	9.33	9.42	9.07	9.30	9.30	
SMC109	SMC	11.75758333	-73.05800000	GDN	No	195.5	M1	Iab-Ib	0	0	2	0	11.26	10.41	10.13	9.96	10.07	9.65	8.81	8.81	
SMC110	SMC	11.77037500	-72.82558333	GDN	No	2.1	F9	IV-V	0	0	2	0	8.84	8.64	8.59	-	-	-	-	-	
SMC111	SMC	11.77858333	-72.68734722	GDN	No	14.5	K3.5	III-IV	0	0	2	0	9.28	8.62	8.57	8.41	8.53	8.41	8.06	8.06	
SMC112	SMC	11.78200000	-73.74539167	GDN	-	130.9	G8	Ib	0	0	1	0	11.38	10.67	10.52	10.28	10.42	10.17	8.69	8.69	
SMC113	SMC	11.78733333	-73.48194167	GDN	-	158.6	K5	Ib	0	0	1	0	12.06	11.14	10.93	10.75	10.88	10.81	9.27	9.27	
SMC114	SMC	11.80391667	-73.16190278	GDN	-	134.9	G8	Iab	0	0	1	0	10.61	9.80	9.64	9.40	9.53	9.18	7.81	7.81	
SMC115	SMC	11.83250000	-73.17798611	GDN	-	136.9	K3	Iab	0	0	1	0	10.30	9.55	9.35	-	-	-	-	-	
SMC116	SMC	11.83333333	-72.67639167	GDN	-	155.7	M3	Iab	0	0	1	0	11.43	10.52	10.30	-	-	-	-	-	
SMC117	SMC	11.84262500	-73.22943056	GDN	-	-9.8	K0	III	0	0	1	0	8.64	8.15	8.08	-	-	-	-	-	
SMC118	SMC	11.90450000	-74.09228611	GDN	-	43.9	G7	V	0	0	1	0	10.99	10.64	10.55	10.50	10.56	10.61	9.06	9.06	
SMC119	SMC	11.94850000	-72.55700000	GDN	-	201.2	Unk	C	0	0	1	0	12.29	11.37	10.97	10.52	10.46	9.52	9.24	9.24	
SMC120	SMC	11.95600000	-72.86823889	GDN	No	71.8	F9	IV-V	0	0	2	0	9.90	9.69	9.66	-	-	-	-	-	
SMC121	SMC	11.97283333	-73.29007778	GDN	-	142.2	G8	Ib	0	0	1	0	11.70	10.91	10.79	10.48	10.39	7.69	3.28	3.28	
SMC122	SMC	11.97595833	-73.77421667	GDN	-	-14.3	K1.5	IV	0	0	1	0	10.04	9.52	9.42	9.34	9.44	9.30	9.28	9.28	
SMC123	SMC	12.00250000	-73.28927500	GDN	-	157.1	K1	Iab	0	0	1	0	99.99	99.99	99.99	9.59	9.75	8.94	5.55	5.55	
SMC124	SMC	12.00483333	-73.38706111	GDN	-	126.5	G7	Ib	0	0	1	0	11.83	11.08	10.94	10.73	10.85	9.91	7.64	7.64	
SMC125	SMC	12.00920833	-74.02768611	GDN	-	35.0	F9	V	0	0	1	0	9.54	9.35	9.28	9.20	9.24	9.16	8.76	8.76	

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
SMC126	SMC	12.00950000	-73.40393889	GDN	–	130.7	G8	Iab	0	0	1	0	11.85	11.07	10.96	10.83	10.98	11.25	9.28
SMC127	SMC	12.01383333	-73.65444167	GDN	–	73.3	G0	V	0	0	1	0	10.85	10.55	10.51	10.39	10.43	10.39	9.27
SMC128	SMC	12.01779167	-72.87836389	GDN	–	143.2	G7.5	Iab	0	0	1	0	11.06	10.33	10.14	10.02	10.16	9.99	8.93
SMC129	SMC	12.02179167	-72.59029444	GDN	–	-25.4	F9	V	0	0	1	0	11.19	10.99	10.99	–	–	–	–
SMC130	SMC	12.05425000	-73.09449722	GDN	–	141.5	K1	Iab-Ib	0	0	1	0	11.48	10.58	10.29	10.03	10.14	9.66	6.56
SMC131	SMC	12.06145833	-74.27399444	GDN	–	0.8	G8	III	0	0	1	0	11.11	10.58	10.52	10.41	10.48	10.42	9.42
SMC132	SMC	12.07195833	-73.85704722	GDN	–	129.9	K2	Ia-Iab	0	0	1	0	9.99	9.22	8.99	8.85	8.90	8.42	8.16
SMC135	SMC	12.11516667	-72.45481111	GDN	No	135.6	K4.5	Iab	0	0	2	0	9.98	9.16	8.95	8.77	8.80	8.29	7.49
SMC136	SMC	12.11529167	-73.78940556	GDN	–	22.9	G7.5	III	0	0	1	0	11.48	10.97	10.88	10.76	10.85	10.80	8.89
SMC137	SMC	12.13870833	-73.20925833	GDN	–	159.5	G5	Ia-Iab	0	0	1	0	11.91	11.21	11.04	10.86	10.99	10.87	9.14
SMC138	SMC	12.15604167	-73.21843056	GDN	No	139.9	K1	Iab	0	0	2	0	10.74	9.94	9.72	9.44	9.58	9.46	9.09
SMC139	SMC	12.16458333	-74.19647222	GDN	–	7.7	G5	V	0	0	1	0	10.45	10.05	9.98	9.93	9.98	9.93	9.44
SMC140	SMC	12.18695833	-73.33864722	GDN	–	10.3	K2	III-IV	0	0	1	0	8.76	8.12	8.03	7.93	8.05	7.84	7.31
SMC141	SMC	12.19875000	-73.08245833	GDN	–	38.4	G6	III	0	0	1	0	10.96	10.46	10.41	10.31	10.41	10.36	9.08
SMC142	SMC	12.20820833	-73.33429722	GDN	–	137.6	K2	Ia-Iab	0	0	1	0	10.50	9.69	9.46	9.25	9.37	9.05	8.29
SMC143	SMC	12.24508333	-73.10411111	GDN	–	146.1	M3	Ia	0	0	1	0	11.38	10.48	10.16	10.03	10.11	9.54	8.28
SMC144	SMC	12.26525000	-73.44030000	GDN	–	158.2	K1	Iab	0	0	1	0	10.54	9.73	9.50	9.32	9.45	9.19	8.60
SMC145	SMC	12.26595833	-73.08882778	GDN	–	138.6	Unk	Unk	0	0	1	0	11.65	10.61	10.13	–	–	–	–
SMC146	SMC	12.28337500	-72.29618889	GDN	–	33.2	K0	V	0	0	1	0	9.52	9.06	8.97	8.89	8.98	8.89	8.77
SMC147	SMC	12.29004167	-72.31719167	GDN	No	-33.7	K0	III	0	0	2	0	10.12	9.61	9.45	9.36	9.48	9.35	8.62
SMC148	SMC	12.30666667	-73.85424722	GDN	–	34.3	G3	V	0	0	1	0	11.35	11.04	10.97	10.87	10.91	10.84	9.42
SMC149	SMC	12.33912500	-73.05755000	GDN	–	143.4	M2	Iab	0	0	1	0	11.76	10.85	10.56	10.29	10.40	9.76	8.70
SMC151	SMC	12.36029167	-73.07653056	GDN	No	157.9	G6.5	Ia-Iab	0	0	2	0	10.85	10.11	9.93	9.72	9.84	9.57	9.19
SMC152	SMC	12.36450000	-73.12206944	GDN	–	124.4	K3	Ib-II	0	0	1	0	12.06	11.18	10.98	10.75	10.87	10.82	9.31
SMC153	SMC	12.37091667	-74.04434167	GDN	–	35.3	G0	III	0	0	1	0	10.59	10.28	10.22	10.18	10.21	10.18	8.91
SMC154	SMC	12.39100000	-73.04783611	GDN	–	15.4	K4	V	0	0	1	0	10.73	10.23	10.16	9.84	9.93	9.90	8.95
SMC155	SMC	12.40620833	-73.92765833	GDN	–	44.0	F9	III	0	0	1	0	10.85	10.62	10.55	–	–	–	–
SMC156	SMC	12.40733333	-73.37976667	GDN	–	132.8	Unk	C	0	0	1	0	11.70	10.71	10.34	9.81	9.99	9.37	9.14
SMC157	SMC	12.41283333	-73.20048611	GDN	–	120.6	K4	Iab	0	0	1	0	11.61	10.69	10.45	10.29	10.42	10.04	8.89
SMC158	SMC	12.44504167	-74.31333889	GDN	–	13.9	G7	V	0	0	1	0	11.42	11.09	10.97	10.92	10.99	11.00	9.32
SMC159	SMC	12.45145833	-72.13050000	GDN	No	21.8	K3.5	IV	0	0	2	0	6.60	5.93	5.76	5.73	5.72	5.71	5.64
SMC160	SMC	12.46337500	-73.33319167	GDN	No	144.4	K1.5	Iab	0	0	2	0	10.89	10.09	9.90	9.73	9.87	9.64	8.84
SMC161	SMC	12.47275000	-73.89751389	GDN	–	-16.6	K3.5	V	0	0	1	0	10.81	10.35	10.25	10.15	10.19	10.12	8.97
SMC162	SMC	12.48229167	-73.88841944	GDN	–	10.4	K2	V	0	0	1	0	11.22	10.75	10.64	10.59	10.64	10.51	9.06
SMC163	SMC	12.48745833	-73.47377778	GDN	–	167.4	G7	Iab	0	0	1	0	11.59	10.87	10.69	10.54	10.68	10.47	9.18
SMC164	SMC	12.48904167	-73.62773889	GDN	–	184.6	K4	Ia-Iab	0	0	1	0	9.99	9.18	8.96	8.74	8.80	8.23	7.29
SMC165	SMC	12.49250000	-72.67244722	GDN	No	30.0	G1	V	0	0	2	0	9.90	9.60	9.56	9.47	9.51	9.46	9.27
SMC166	SMC	12.51054167	-72.75671389	GDN	–	14.9	F9	III	0	0	1	0	11.20	10.96	10.90	–	–	–	–
SMC167	SMC	12.55245833	-72.56172778	GDN	–	120.2	Unk	C	0	0	1	0	12.32	11.35	10.95	10.65	10.75	10.01	9.34
SMC168	SMC	12.55575000	-73.04385278	GDN	–	147.2	K0	Iab-Ib	0	0	1	0	11.81	10.93	10.56	10.28	9.93	9.09	9.04
SMC169	SMC	12.62762500	-72.85833611	GDN	–	147.2	M8	II	0	0	1	0	10.34	9.39	8.78	8.80	8.17	5.67	4.49
SMC170	SMC	12.64225000	-73.23171944	GDN	–	202.6	M3.5	Iab	0	0	1	0	11.80	10.89	10.61	10.45	10.53	10.37	8.75
SMC171	SMC	12.65991667	-73.32671389	GDN	–	170.9	K2	Ib	0	0	1	0	11.17	10.37	10.21	10.06	10.20	9.93	8.64

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _S	W1	W2	W3	W4
SMC172	SMC	12.67233333	-73.19776944	GDN	–	153.7	G7.5	Ia-Iab	0	0	1	0	11.03	10.27	10.04	9.90	10.03	9.85	9.20
SMC173	SMC	12.67429167	-72.32286111	GDN	–	6.0	G0.5	V	0	0	1	0	8.70	8.44	8.38	–	–	–	–
SMC174	SMC	12.67750000	-72.61337222	GDN	–	17.2	G7	IV	0	0	1	0	11.20	10.64	10.57	10.50	10.58	10.59	9.22
SMC175	SMC	12.68558333	-73.24709167	GDN	–	39.1	G4	V	0	0	1	0	11.07	10.73	10.67	10.65	10.70	10.75	9.25
SMC176	SMC	12.70004167	-73.07160278	GDN	–	145.2	K1	Iab	0	0	1	0	10.76	9.98	9.77	9.64	9.80	9.52	8.63
SMC177	SMC	12.70554167	-73.26295556	GDN	No	175.6	K0.5	Iab	0	0	2	0	10.93	10.16	9.96	9.82	9.95	9.75	9.00
SMC178	SMC	12.71037500	-72.65773889	GDN	No	160.0	G8	Iab-Ib	0	0	2	0	10.84	10.08	9.93	9.83	9.96	9.76	8.88
SMC179	SMC	12.71687500	-73.48104167	GDN	No	175.2	K0.5	Iab	0	0	2	0	10.67	9.87	9.68	9.53	9.67	9.39	9.20
SMC180	SMC	12.74175000	-73.28572222	GDN	–	174.0	G8	Iab-Ib	0	0	1	0	11.88	11.13	10.98	10.84	10.97	10.73	8.99
SMC181	SMC	12.74275000	-72.69284167	GDN	–	35.6	G0	V	0	0	1	0	10.64	10.33	10.29	–	–	–	–
SMC182	SMC	12.76012500	-72.90715000	GDN	–	53.5	K1	III	0	0	1	0	10.96	10.38	10.25	10.19	10.29	10.21	8.42
SMC183	SMC	12.77812500	-73.27687778	GDN	–	160.4	K1	Iab-Ib	0	0	1	0	11.27	10.52	10.16	9.68	9.72	9.21	8.63
SMC184	SMC	12.79441667	-72.61046667	GDN	No	143.1	G7.5	Iab-Ib	0	0	2	0	10.93	10.16	9.98	9.89	10.00	9.85	8.90
SMC185	SMC	12.80691667	-73.54470000	GDN	No	183.8	K3.5	Ia-Iab	0	0	2	0	11.09	10.25	9.97	9.79	9.89	9.54	9.13
SMC186	SMC	12.81633333	-73.57065556	GDN	No	179.7	M5	Ib-II	0	0	2	0	10.74	9.86	9.59	9.24	9.23	8.88	8.43
SMC187	SMC	12.82445833	-73.18083889	GDN	–	157.6	G7	Ib	0	0	1	0	11.70	10.98	10.77	10.56	10.69	10.51	8.48
SMC188	SMC	12.83012500	-74.09816667	GDN	–	42.4	G3	V	0	0	1	0	10.89	10.59	10.52	10.41	10.45	10.39	8.64
SMC189	SMC	12.83062500	-72.56911389	GDN	–	157.2	Unk	C	0	0	1	0	11.81	10.84	10.45	9.84	9.90	9.23	9.10
SMC190	SMC	12.83395833	-72.86789722	GDN	–	111.7	K2	Iab	0	0	1	0	11.86	11.01	10.82	10.69	10.78	10.66	9.09
SMC191	SMC	12.84100000	-73.13919167	GDN	–	153.7	K3	Ib-II	0	0	1	0	11.51	10.64	10.35	–	–	–	–
SMC192	SMC	12.84387500	-72.45835833	GDN	No	41.5	G5.5	IV-V	0	0	2	0	9.68	9.36	9.26	9.21	9.28	9.20	8.81
SMC193	SMC	12.86066667	-72.67889444	GDN	No	31.6	K2.5	III-IV	0	0	2	0	7.65	7.09	6.94	6.84	6.95	6.87	6.84
SMC194	SMC	12.86054167	-73.32836944	GDN	–	165.5	K1	Ia-Iab	0	0	1	0	11.20	10.42	10.21	10.08	10.23	10.02	9.37
SMC195	SMC	12.87841667	-73.97256389	GDN	–	26.9	F9	V	0	0	1	0	11.22	10.98	10.88	–	–	–	–
SMC196	SMC	12.88016667	-73.33548611	GDN	No	122.2	M3.5	Ib-II	0	0	2	0	10.72	9.80	9.50	9.17	9.17	8.81	8.01
SMC197	SMC	12.88112500	-73.18094722	GDN	–	134.1	K0	Iab	0	0	1	0	10.85	10.10	9.86	9.79	9.90	9.62	8.49
SMC198	SMC	12.88666667	-72.09703889	GDN	No	169.4	K0.5	Iab	0	0	2	0	10.37	9.60	9.41	9.29	9.39	9.09	8.77
SMC199	SMC	12.89354167	-72.83243611	GDN	–	167.5	K3	Iab-Ib	0	0	1	0	11.15	10.32	10.05	9.94	10.07	9.89	9.27
SMC200	SMC	12.89804167	-72.33281667	GDN	No	36.8	K0	III	0	0	2	0	9.66	9.12	8.97	8.91	9.03	8.91	9.27
SMC201	SMC	12.90241667	-73.92939722	GDN	–	62.3	K0	III	0	0	1	0	9.29	8.73	8.57	8.51	8.64	8.50	8.52
SMC202	SMC	12.91158333	-72.97234167	GDN	–	163.4	G7	Iab	0	0	1	0	11.85	11.14	10.97	10.84	10.98	10.96	9.25
SMC203	SMC	12.92545833	-72.77524722	GDN	–	121.0	Unk	C	0	0	1	0	12.30	11.23	10.69	10.18	10.15	9.31	9.22
SMC204	SMC	12.94408333	-71.99797222	GDN	–	17.1	F9	III	0	0	1	0	10.07	9.96	9.86	–	–	–	–
SMC205	SMC	12.95887500	-72.62434444	GDN	No	150.6	G6.5	Iab	0	0	2	0	10.59	9.82	9.65	9.52	9.64	9.41	8.59
SMC206	SMC	12.96037500	-71.99004444	GDN	No	157.1	K3.5	Iab	0	0	2	0	10.42	9.64	9.42	9.20	9.23	8.83	8.74
SMC207	SMC	12.98000000	-73.24411667	GDN	–	158.8	K0	Ib	0	0	1	0	11.81	11.01	10.81	10.61	10.73	10.37	8.95
SMC208	SMC	12.99720833	-74.13784722	GDN	–	110.6	Unk	C	0	0	1	0	11.66	10.94	10.70	10.41	10.59	10.30	9.17
SMC209	SMC	13.01154167	-72.97318333	GDN	No	144.8	K1	Iab	0	0	2	0	10.93	10.14	9.97	9.87	10.03	9.83	8.97
SMC210	SMC	13.01954167	-73.45027222	GDN	–	153.6	M3.5	Ib	0	0	1	0	11.71	10.81	10.53	10.32	10.42	10.18	9.21
SMC211	SMC	13.02258333	-72.72034444	GDN	No	156.2	K0.5	Iab	0	0	2	0	10.47	9.69	9.44	9.37	9.50	9.27	9.00
SMC212	SMC	13.02450000	-74.02771667	GDN	–	17.7	G1	V	0	0	1	0	9.94	9.66	9.58	9.55	9.59	9.53	9.09
SMC213	SMC	13.03154167	-72.92365278	GDN	–	97.9	K2	Ib	0	0	1	0	11.97	11.13	10.87	10.78	10.88	10.66	9.06
SMC214	SMC	13.05020833	-72.62743333	GDN	–	160.3	G5	Iab	0	0	1	0	11.63	11.00	10.86	10.76	10.86	10.71	9.01

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs					2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4	
SMC215	SMC	13.05183333	-73.41554167	GDN	–	145.6	G8.5	Ib	0	0	1	0	11.82	11.04	10.83	–	–	–	–	–
SMC216	SMC	13.05591667	-72.88915278	GDN	No	22.0	K0.5	III-IV	0	0	2	0	9.23	8.72	8.55	8.49	8.59	8.48	8.36	
SMC217	SMC	13.05841667	-73.05432222	GDN	–	149.5	K2	Ib-II	0	0	1	0	11.96	11.15	10.97	10.85	11.01	10.75	8.79	
SMC218	SMC	13.06787500	-72.06575833	GDN	No	-27.7	G5.5	V	0	0	2	0	9.49	9.07	8.97	8.92	8.98	8.90	8.74	
SMC219	SMC	13.10750000	-72.71223333	GDN	–	186.2	Unk	C	0	0	1	0	12.03	11.04	10.60	10.30	10.36	9.55	9.29	
SMC220	SMC	13.11175000	-74.00648611	GDN	–	31.3	G1.5	V	0	0	1	0	11.26	10.93	10.86	10.82	10.85	10.73	9.44	
SMC221	SMC	13.11762500	-73.32108333	GDN	–	177.7	G7.5	Iab	0	0	1	0	10.43	9.60	9.34	9.19	9.33	8.98	8.88	
SMC222	SMC	13.12841667	-73.04946111	GDN	No	55.1	K0	III	0	0	2	0	10.03	9.48	9.39	9.29	9.40	9.25	8.72	
SMC223	SMC	13.15720833	-74.04103056	GDN	–	32.1	G0	IV-V	0	0	1	0	10.19	9.94	9.83	–	–	–	–	
SMC224	SMC	13.15941667	-72.35503333	GDN	No	152.4	K2	Iab	0	0	2	0	10.18	9.42	9.21	9.05	9.13	8.85	8.35	
SMC226	SMC	13.16991667	-73.30971389	GDN	–	115.6	G8	Iab	0	0	1	0	10.81	10.03	9.84	9.67	9.80	9.63	9.32	
SMC227	SMC	13.17258333	-72.93471389	GDN	–	140.5	M2.5	Ia	0	0	1	0	11.92	11.00	10.77	10.59	10.73	10.57	8.66	
SMC228	SMC	13.19733333	-73.58493056	GDN	No	5.8	F9	IV	0	0	2	0	10.24	10.00	9.96	–	–	–	–	
SMC229	SMC	13.20375000	-74.21141667	GDN	–	10.2	G7	III	0	0	1	0	10.89	10.36	10.28	10.20	10.29	10.12	8.72	
SMC230	SMC	13.21745833	-72.58203056	GDN	No	-12.3	G7	V	0	0	2	0	9.79	9.47	9.39	9.35	9.42	9.32	9.04	
SMC231	SMC	13.22075000	-74.02476389	GDN	–	32.0	K1	III	0	0	1	0	11.53	10.99	10.84	10.79	10.91	10.71	9.13	
SMC233	SMC	13.24195833	-72.60881667	GDN	–	120.5	M1	Iab-Ib	0	0	1	0	11.21	10.31	10.07	9.95	10.05	9.72	9.16	
SMC234	SMC	13.24237500	-73.17392778	GDN	–	213.8	F9	V	0	0	1	0	10.87	10.40	10.36	–	–	–	–	
SMC235	SMC	13.24612500	-72.74377500	GDN	–	114.4	K3	Iab-Ib	0	0	1	0	11.77	10.91	10.65	10.57	10.71	10.65	9.13	
SMC236	SMC	13.24904167	-73.44196389	GDN	–	156.6	G6	Iab	0	0	1	0	11.58	10.88	10.72	10.63	10.76	10.71	9.16	
SMC237	SMC	13.27291667	-72.77786389	GDN	–	105.8	K3	Iab	0	0	1	0	11.11	10.20	9.92	9.80	9.87	9.42	8.30	
SMC238	SMC	13.27641667	-73.10924444	GDN	–	-34.5	K5	II	0	0	1	0	7.19	6.35	6.16	6.06	6.03	6.04	5.97	
SMC239	SMC	13.29112500	-73.22351667	GDN	No	6.8	F9	III	0	0	2	0	9.93	9.70	9.61	–	–	–	–	
SMC240	SMC	13.29329167	-73.95713056	GDN	–	15.2	F9	III-IV	0	0	1	0	11.17	10.97	10.89	–	–	–	–	
SMC241	SMC	13.29612500	-72.95106389	GDN	No	5.1	K1	III-IV	0	0	2	0	10.27	9.74	9.58	9.48	9.61	9.48	8.83	
SMC242	SMC	13.32000000	-72.69783889	GDN	–	157.1	K2	Ib	0	0	1	0	11.79	11.01	10.81	10.68	10.83	10.62	9.32	
SMC243	SMC	13.32370833	-72.76508333	GDN	–	157.2	K0	Ib	0	0	1	0	10.81	10.08	9.88	9.69	9.80	9.49	8.80	
SMC244	SMC	13.32750000	-72.70206389	GDN	No	165.8	K0.5	Iab-Ib	0	0	2	0	10.65	9.86	9.66	9.54	9.67	9.46	8.56	
SMC245	SMC	13.33183333	-73.87361111	GDN	–	64.8	G8	V	0	0	1	0	10.21	9.82	9.71	9.67	9.74	9.64	8.87	
SMC246	SMC	13.34529167	-72.19644167	GDN	–	166.4	G8	Ia-Iab	0	0	1	0	10.81	10.05	9.86	–	–	–	–	
SMC247	SMC	13.34916667	-74.11545556	GDN	–	34.5	G7	V	0	0	1	0	9.47	9.11	9.03	–	–	–	–	
SMC248	SMC	13.35279167	-72.19686111	GDN	–	163.3	K0	Iab-Ib	0	0	1	0	10.47	9.69	9.50	–	–	–	–	
SMC249	SMC	13.36041667	-72.86654722	GDN	–	30.2	K1	III	0	0	1	0	10.95	10.42	10.24	10.18	10.32	10.17	9.33	
SMC250	SMC	13.41437500	-72.87754722	GDN	–	140.3	M2	Iab	0	0	1	0	10.91	9.99	9.65	9.65	9.65	9.23	9.00	
SMC251	SMC	13.41525000	-72.53579722	GDN	No	145.4	G7.5	Ia-Iab	0	0	2	0	10.64	9.93	9.80	9.63	9.75	9.56	9.08	
SMC252	SMC	13.42312500	-72.25752222	GDN	No	155.2	K2.5	Iab	0	0	2	0	10.54	9.79	9.59	9.46	9.59	9.33	8.79	
SMC253	SMC	13.48070833	-72.11202222	GDN	No	163.2	K0	Iab	0	0	2	0	10.61	9.84	9.62	9.51	9.63	9.35	8.85	
SMC254	SMC	13.52908333	-73.30402500	GDN	–	177.7	Unk	C	0	0	1	0	12.02	10.96	10.44	9.92	9.92	9.33	9.21	
SMC255	SMC	13.53979167	-72.17816111	GDN	No	-2.9	K2	V	0	0	2	0	9.58	9.16	9.06	–	–	–	–	
SMC256	SMC	13.55450000	-73.44900556	GDN	–	39.3	G0	V	0	0	1	0	10.66	10.34	10.28	10.23	10.26	10.21	9.14	
SMC257	SMC	13.57425000	-73.38165278	GDN	No	34.1	K1	III-IV	0	0	2	0	10.34	9.76	9.67	9.59	9.68	9.59	9.08	
SMC258	SMC	13.61054167	-71.87124722	GDN	No	54.5	G1	V	0	0	2	0	9.08	8.81	8.72	–	–	–	–	
SMC259	SMC	13.62216667	-72.79472500	GDN	–	162.1	M4	Iab	0	0	1	0	11.55	10.60	10.24	10.06	10.15	9.66	8.63	

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _S	W1	W2	W3	W4
SMC260	SMC	13.62504167	-73.07265556	GDN	–	143.9	K3	Iab	0	0	1	0	11.98	11.10	10.85	10.74	10.89	10.61	9.24
SMC261	SMC	13.63258333	-73.28440000	GDN	No	156.4	K0	Iab	0	0	2	0	10.64	9.88	9.71	9.56	9.69	9.50	9.18
SMC262	SMC	13.66125000	-73.05210000	GDN	–	-15.5	F9	V	0	0	1	0	11.06	10.88	10.83	–	–	–	–
SMC263	SMC	13.66833333	-73.22797500	GDN	–	158.1	M0	Ib	0	0	1	0	11.77	10.91	10.60	10.47	10.60	10.36	9.17
SMC264	SMC	13.68170833	-73.58678333	GDN	–	204.8	M0	Iab-Ib	0	0	1	0	12.10	11.18	10.96	10.85	10.93	10.24	8.56
SMC265	SMC	13.68679167	-73.41973056	GDN	No	38.3	K0.5	III	0	0	2	0	9.24	8.64	8.53	8.39	8.53	8.39	8.53
SMC266	SMC	13.71154167	-73.94428889	GDN	–	-51.8	F9	V	0	0	1	0	10.51	10.26	10.21	–	–	–	–
SMC267	SMC	13.71187500	-73.69097778	GDN	No	45.1	K1	III-IV	0	0	2	0	9.54	8.97	8.78	8.71	8.82	8.68	8.99
SMC268	SMC	13.73229167	-73.71510278	GDN	No	29.2	G1	V	0	0	2	0	8.82	8.55	8.47	8.41	8.46	8.41	8.27
SMC269	SMC	13.75262500	-74.07992500	GDN	–	69.0	F9	V	0	0	1	0	11.00	10.76	10.69	–	–	–	–
SMC270	SMC	13.75750000	-72.11389167	GDN	No	11.7	G7.5	III	0	0	2	0	8.79	8.29	8.20	8.11	8.20	8.09	7.85
SMC271	SMC	13.77937500	-71.89420278	GDN	No	36.5	K4.5	III	0	0	2	0	10.06	9.28	9.11	9.05	9.16	8.98	8.56
SMC272	SMC	13.79308333	-74.03040278	GDN	–	153.2	K2	Ia-Iab	0	0	1	0	11.52	10.71	10.51	10.39	10.53	10.30	9.15
SMC273	SMC	13.82133333	-71.94728056	GDN	No	156.9	G7.5	Ia-Iab	0	0	2	0	10.15	9.41	9.21	9.05	9.15	8.91	8.69
SMC274	SMC	13.82500000	-72.09223333	GDN	No	137.7	M5.5	II-III	0	0	2	0	10.60	9.71	9.36	9.29	8.96	8.32	8.01
SMC275	SMC	13.83412500	-72.88414722	GDN	–	136.4	M1.5	Ib-II	0	0	1	0	12.06	11.16	10.86	10.72	10.84	10.62	9.39
SMC276	SMC	13.84616667	-72.95328611	GDN	–	-23.5	G2	V	0	0	1	0	11.14	10.87	10.79	10.77	10.82	10.79	8.62
SMC278	SMC	13.87733333	-73.57478333	GDN	No	-3.2	F9	IV	0	0	2	0	9.49	9.23	9.17	–	–	–	–
SMC279	SMC	13.90954167	-73.30698333	GDN	No	158.0	G7	Iab-Ib	0	0	2	0	10.80	10.06	9.89	9.77	9.89	9.71	8.71
SMC280	SMC	13.91025000	-72.31038611	GDN	No	162.9	G7.5	Ia-Iab	0	0	2	0	10.65	9.85	9.70	9.54	9.65	9.35	9.12
SMC281	SMC	13.91316667	-73.14739167	GDN	–	181.2	K1	Ib	0	0	1	0	11.17	10.41	10.18	10.04	10.17	9.94	9.25
SMC282	SMC	13.96345833	-73.77312500	GDN	–	63.5	K2	III	0	0	1	0	10.60	9.94	9.79	9.70	9.81	9.68	8.68
SMC283	SMC	13.97275000	-73.30749444	GDN	No	0.1	M6	II-III	0	0	2	0	6.05	5.26	4.79	4.71	4.38	3.93	3.06
SMC284	SMC	14.04254167	-73.12136111	GDN	No	-3.1	F9	IV	0	0	2	0	8.48	8.25	8.19	–	–	–	–
SMC285	SMC	14.04925000	-73.95105000	GDN	–	51.8	K2	III	0	0	1	0	11.07	10.46	10.39	10.28	10.37	10.21	9.04
SMC286	SMC	14.07600000	-72.64434167	GDN	No	162.4	K0.5	Iab	0	0	2	0	10.81	10.01	9.78	9.62	9.73	9.15	7.26
SMC287	SMC	14.07941667	-72.46896389	GDN	No	160.8	G8.5	Iab-Ib	0	0	2	0	10.91	10.15	9.93	9.79	9.88	9.74	9.40
SMC288	SMC	14.09829167	-72.88147778	GDN	–	59.8	G1	V	0	0	1	0	10.87	10.57	10.50	10.44	10.49	10.35	9.04
SMC289	SMC	14.18370833	-72.99329444	GDN	No	8.1	F9.5	V	0	0	2	0	9.41	9.14	9.07	9.04	9.08	9.03	8.95
SMC290	SMC	14.18995833	-73.04618889	GDN	No	19.1	F9	IV	0	0	2	0	10.09	9.91	9.80	–	–	–	–
SMC291	SMC	14.19812500	-73.69652500	GDN	–	6.7	G1	V	0	0	1	0	11.27	10.99	10.93	10.88	10.93	10.84	9.38
SMC292	SMC	14.21275000	-73.07251111	GDN	–	1.2	G1	V	0	0	1	0	10.69	10.40	10.36	10.23	10.27	10.17	8.44
SMC293	SMC	14.21979167	-73.77743611	GDN	–	163.0	Unk	C	0	0	1	0	12.05	11.24	10.97	10.76	10.87	10.57	9.30
SMC294	SMC	14.27829167	-72.26683056	GDN	No	175.9	G8	Iab	0	0	2	0	10.73	9.96	9.76	9.62	9.76	9.43	8.90
SMC295	SMC	14.29900000	-71.89190000	GDN	No	44.9	G3	V	0	0	2	0	10.44	10.14	10.05	10.01	10.06	10.01	9.38
SMC296	SMC	14.30150000	-73.53128056	GDN	–	31.6	G7	V	0	0	1	0	10.97	10.65	10.54	10.45	10.50	10.23	8.84
SMC297	SMC	14.31891667	-73.10363889	GDN	No	193.1	M4	Iab-Ib	0	0	2	0	10.81	9.86	9.62	9.46	9.45	8.94	8.65
SMC298	SMC	14.40350000	-71.85699444	GDN	No	12.2	K1	IV	0	0	2	0	10.44	9.88	9.75	9.70	9.78	9.63	8.72
SMC299	SMC	14.40858333	-73.31491111	GDN	–	34.2	K1	IV	0	0	1	0	11.56	11.10	10.98	10.91	11.01	11.02	8.75
SMC300	SMC	14.41929167	-73.71703333	GDN	No	46.8	G8.5	II-III	0	0	2	0	8.53	7.95	7.86	7.77	7.88	7.79	7.69
SMC301	SMC	14.42466667	-73.03874167	GDN	–	167.3	M2.5	Ib	0	0	1	0	11.99	11.07	10.78	10.63	10.76	10.28	8.81
SMC302	SMC	14.48216667	-73.75945278	GDN	No	-6.3	G7.5	III-IV	0	0	2	0	9.02	8.50	8.39	8.33	8.41	8.32	8.52
SMC303	SMC	14.51870833	-73.05847778	GDN	–	31.3	G4	V	0	0	1	0	10.64	10.30	10.26	–	–	–	–

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4
SMC304	SMC	14.52179167	-72.29051944	GDN	–	148.0	G8	Iab	0	0	1	0	10.80	10.06	9.87	9.77	9.90	9.69	8.76
SMC305	SMC	14.56916667	-72.07083889	GDN	No	-6.0	G4.5	V	0	0	2	0	10.50	10.12	10.04	10.00	10.06	10.06	8.99
SMC306	SMC	14.60337500	-72.23686111	GDN	No	151.1	G8.5	Iab-Ib	0	0	2	0	10.91	10.15	9.94	9.86	10.02	9.69	8.26
SMC307	SMC	14.63504167	-72.55785278	GDN	No	164.3	K1	Iab	0	0	2	0	10.68	9.88	9.63	9.52	9.64	9.41	8.86
SMC308	SMC	14.65570833	-73.25997778	GDN	–	50.5	G7	III	0	0	1	0	11.41	10.89	10.80	10.74	10.86	10.74	8.64
SMC309	SMC	14.67291667	-73.48553611	GDN	–	177.1	Unk	Unk	0	0	1	0	12.04	11.14	10.87	–	–	–	–
SMC310	SMC	14.67450000	-73.59033333	GDN	–	33.4	K2	III-IV	0	0	1	0	11.58	11.09	10.97	10.89	10.98	10.79	9.14
SMC311	SMC	14.70900000	-72.30992778	GDN	–	163.3	M8.5	II	0	0	1	0	9.96	9.02	8.61	8.79	8.38	7.43	6.55
SMC312	SMC	14.71212500	-72.68901667	GDN	No	167.3	K1	Iab-Ib	0	0	2	0	10.94	10.11	9.93	9.81	9.94	9.70	9.22
SMC313	SMC	14.72216667	-72.14316667	GDN	No	97.6	G8	Iab-Ib	0	0	2	0	10.52	9.77	9.57	9.42	9.54	8.97	5.75
SMC314	SMC	14.72716667	-72.69479444	GDN	No	23.0	M0	V	0	0	2	0	10.40	9.81	9.61	–	–	–	–
SMC315	SMC	14.74620833	-73.64404167	GDN	No	2.5	G1	III-IV	0	0	2	0	9.56	9.25	9.19	9.14	9.19	9.10	8.99
SMC316	SMC	14.75912500	-73.49710833	GDN	No	123.6	Unk	C	0	0	2	0	11.25	10.25	9.78	9.42	9.42	8.69	8.52
SMC317	SMC	14.84212500	-73.74891667	GDN	–	18.7	F9	III	0	0	1	0	8.36	8.07	8.01	–	–	–	–
SMC318	SMC	14.88620833	-73.38166667	GDN	No	11.6	G2.5	V	0	0	2	0	10.28	9.93	9.87	9.79	9.85	9.80	8.70
SMC319	SMC	14.92504167	-73.72355833	GDN	No	26.9	G2	V	0	0	2	0	9.96	9.58	9.54	9.49	9.54	9.46	9.01
SMC320	SMC	15.01454167	-71.96136389	GDN	No	151.3	G8.5	Iab-Ib	0	0	2	0	10.83	10.07	9.95	9.81	9.94	9.71	9.29
SMC321	SMC	15.07904167	-72.74329444	GDN	No	-11.8	G6	V	0	0	2	0	9.23	8.86	8.76	8.69	8.74	8.68	8.42
SMC322	SMC	15.10529167	-71.81831389	GDN	–	2.1	G1	IV	0	0	1	0	10.05	9.77	9.67	9.63	9.64	9.57	8.64
SMC323	SMC	15.13483333	-72.14749167	GDN	No	183.4	K0	Ib	0	0	2	0	10.91	10.15	9.93	9.76	9.89	9.66	9.10
SMC324	SMC	15.18516667	-71.99415556	GDN	No	149.8	K1	Iab	0	0	2	0	10.87	10.09	9.91	9.76	9.89	9.66	9.28
SMC325	SMC	15.23362500	-72.56491111	GDN	No	-3.0	G2.5	V	0	0	2	0	9.44	9.15	9.06	–	–	–	–
SMC326	SMC	15.33104167	-72.11348056	GDN	–	162.4	K1	Iab	0	0	1	0	10.57	9.79	9.62	9.52	9.64	9.42	9.14
SMC327	SMC	15.34220833	-72.03425556	GDN	–	-29.6	K2	III	0	0	1	0	9.89	9.17	9.03	8.96	9.08	8.93	8.57
SMC328	SMC	15.40779167	-71.90448889	GDN	–	20.1	K5	V	0	0	1	0	99.99	99.99	99.99	–	–	–	–
SMC329	SMC	15.41016667	-71.90428889	GDN	–	21.4	K5.5	V	0	0	1	0	9.86	9.42	10.20	–	–	–	–
SMC330	SMC	15.43337500	-73.52988333	GDN	No	189.3	K4	Ib	0	0	2	0	10.95	10.09	9.87	9.74	9.84	9.58	8.71
SMC331	SMC	15.45104167	-72.68073889	GDN	No	201.9	K3	Iab-Ib	0	0	2	0	10.69	9.85	9.62	9.51	9.65	9.39	8.54
SMC332	SMC	15.47029167	-72.42900000	GDN	No	164.9	K1	Iab-Ib	0	0	2	0	10.96	10.17	9.97	9.87	9.98	9.78	9.30
SMC333	SMC	15.49841667	-73.42116389	GDN	No	39.1	G5	V	0	0	2	0	9.42	9.12	9.01	–	–	–	–
SMC334	SMC	15.57879167	-72.04280000	GDN	–	180.0	G8.5	Iab	0	0	1	0	10.58	9.87	9.62	9.53	9.67	9.49	9.12
SMC335	SMC	15.58779167	-72.69042222	GDN	No	134.0	M3	Ia-Iab	0	0	2	0	11.31	10.35	10.04	9.87	9.96	9.38	8.56
SMC336	SMC	15.61041667	-72.04122222	GDN	–	31.5	G0	V	0	0	1	0	10.21	9.97	9.84	–	–	–	–
SMC337	SMC	15.62866667	-72.39942222	GDN	No	9.2	G8	II	0	0	2	0	9.35	8.79	8.71	8.62	8.72	8.60	9.22
SMC338	SMC	15.64116667	-73.25800278	GDN	No	-0.1	G7	V	0	0	2	0	10.41	10.03	9.96	9.93	9.99	9.95	8.72
SMC339	SMC	15.64345833	-72.04943889	GDN	–	184.3	G8.5	Iab	0	0	1	0	10.63	9.90	9.68	9.58	9.72	9.56	8.56
SMC340	SMC	15.65804167	-72.59851667	GDN	No	173.7	G8	Iab	0	0	2	0	10.83	10.05	9.85	9.71	9.86	9.59	9.24
SMC341	SMC	15.66470833	-73.30048333	GDN	No	307.0	K1.5	II	0	0	2	0	10.72	9.99	9.82	9.74	9.83	9.65	8.42
SMC342	SMC	15.66975000	-72.28814722	GDN	No	173.4	K0.5	Iab	0	0	2	0	10.73	9.98	9.79	9.70	9.83	9.62	9.20
SMC343	SMC	15.67829167	-73.53226389	GDN	No	1.6	G1	V	0	0	2	0	10.16	9.83	9.76	–	–	–	–
SMC344	SMC	15.72275000	-72.22068889	GDN	No	30.8	G7.5	III	0	0	2	0	9.54	9.01	8.90	8.79	8.88	8.78	8.92
SMC345	SMC	15.74958333	-72.54595278	GDN	No	11.0	K1	IV	0	0	2	0	8.30	7.74	7.61	7.49	7.61	7.53	7.63
SMC346	SMC	15.75883333	-72.08805833	GDN	–	48.3	F9	III	0	0	1	0	8.70	8.45	8.41	–	–	–	–

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs				2MASS			WISE				
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4	
SMC347	SMC	15.78704167	-72.74879444	GDN	No	9.1	M0	V	0	0	2	0	9.80	9.14	8.91	—	—	—	—	—
SMC348	SMC	15.80904167	-72.36641667	GDN	No	7.7	G7	IV	0	0	2	0	7.98	7.46	7.35	7.21	7.37	7.29	7.33	7.33
SMC349	SMC	15.89000000	-72.05062778	GDN	—	173.9	K2	Ia-Iab	0	0	1	0	9.80	9.02	8.78	8.66	8.76	8.44	6.30	6.30
SMC350	SMC	15.89983333	-71.87166667	GDN	—	35.6	G5	IV	0	0	1	0	10.43	9.87	9.81	9.75	9.83	9.68	8.84	8.84
SMC351	SMC	15.90545833	-71.97915000	GDN	—	171.4	K0.5	Ia-Iab	0	0	1	0	10.56	9.82	9.60	9.50	9.63	9.44	9.06	9.06
SMC352	SMC	15.93891667	-72.13030278	GDN	No	181.8	K1	Iab	0	0	2	0	10.60	9.82	9.64	9.48	9.62	9.36	8.84	8.84
SMC353	SMC	15.94987500	-73.64311944	GDN	No	43.0	K0	III	0	0	2	0	10.39	9.80	9.69	9.64	9.74	9.56	9.06	9.06
SMC354	SMC	15.97437500	-72.75418056	GDN	—	196.0	G1	Ib	0	0	1	0	9.07	8.41	8.31	8.22	8.29	8.20	8.07	8.07
SMC355	SMC	15.99229167	-72.83243611	GDN	No	192.9	K2	Iab-Ib	0	0	2	0	10.79	9.94	9.75	9.62	9.74	9.49	9.16	9.16
SMC356	SMC	15.99516667	-73.46246389	GDN	No	10.5	K0.5	III	0	0	2	0	6.42	5.69	5.51	5.46	5.42	5.47	5.37	5.37
SMC357	SMC	16.00695833	-72.14039722	GDN	No	4.5	K4.5	III-IV	0	0	2	0	8.70	7.96	7.83	7.70	7.88	7.73	7.42	7.42
SMC358	SMC	16.02854167	-72.06543611	GDN	—	188.1	K1.5	Ia-Iab	0	0	1	0	10.56	9.80	9.59	9.48	9.61	9.42	9.39	9.39
SMC359	SMC	16.02933333	-72.21543056	GDN	No	39.8	F9	V	0	0	2	0	9.78	9.49	9.46	—	—	—	—	—
SMC360	SMC	16.05229167	-71.98716667	GDN	—	182.1	K2	Iab	0	0	1	0	10.68	9.91	9.70	9.53	9.67	9.42	8.81	8.81
SMC361	SMC	16.05508333	-73.31823056	GDN	No	40.4	G1	V	0	0	2	0	9.29	8.90	8.85	8.78	8.80	8.76	8.87	8.87
SMC362	SMC	16.08737500	-72.25270000	GDN	No	5.9	G8	III	0	0	2	0	6.70	6.16	6.10	6.04	6.01	6.05	6.00	6.00
SMC363	SMC	16.09662500	-72.22212222	GDN	No	25.8	K2	III-IV	0	0	2	0	9.15	8.50	8.41	8.30	8.41	8.31	8.16	8.16
SMC364	SMC	16.09950000	-73.19904167	GDN	No	-12.2	F9	IV-V	0	0	2	0	9.18	8.96	8.92	—	—	—	—	—
SMC365	SMC	16.10529167	-72.52187222	GDN	—	35.8	K0.5	III	0	0	1	0	10.75	10.18	10.10	10.03	10.11	9.95	9.30	9.30
SMC366	SMC	16.11083333	-72.57781111	GDN	No	158.1	M4	Ib-II	0	0	2	0	10.64	9.68	9.41	9.31	9.27	8.80	8.17	8.17
SMC367	SMC	16.13408333	-72.18705833	GDN	No	158.7	K0	Iab-Ib	0	0	2	0	10.85	10.14	9.93	9.81	9.94	9.78	9.23	9.23
SMC368	SMC	16.14120833	-72.60488889	GDN	No	9.8	G4	V	0	0	2	0	10.13	9.82	9.75	—	—	—	—	—
SMC369	SMC	16.22950000	-72.04344167	GDN	—	180.1	F9	Ia	0	0	1	0	10.03	9.80	9.71	—	—	—	—	—
SMC370	SMC	16.23262500	-71.88268889	GDN	No	22.0	F9	V	0	0	2	0	9.17	8.91	8.83	—	—	—	—	—
SMC371	SMC	16.23491667	-72.04369444	GDN	—	183.0	G5	Iab	0	0	1	0	10.80	10.09	9.94	—	—	—	—	—
SMC372	SMC	16.24600000	-72.14729167	GDN	No	7.0	K1	III	0	0	2	0	8.81	8.21	8.09	7.99	8.13	8.01	8.00	8.00
SMC373	SMC	16.25966667	-72.92571389	GDN	No	201.8	K0	Iab	0	0	2	0	10.66	9.93	9.74	9.62	9.75	9.46	8.68	8.68
SMC374	SMC	16.32579167	-72.55400833	GDN	No	27.0	F9.5	III-IV	0	0	2	0	7.05	6.79	6.72	—	—	—	—	—
SMC375	SMC	16.36416667	-72.28453889	GDN	—	175.6	K0	Ia-Iab	0	0	1	0	10.61	9.89	9.64	9.55	9.68	9.41	8.80	8.80
SMC376	SMC	16.37075000	-72.67265278	GDN	No	163.6	G3	Iab	0	0	2	0	10.66	10.19	10.01	9.81	9.76	9.40	8.55	8.55
SMC377	SMC	16.40483333	-73.34690833	GDN	No	40.1	G0.5	V	0	0	2	0	10.28	9.89	9.82	—	—	—	—	—
SMC378	SMC	16.45950000	-71.96732222	GDN	—	51.0	K5	V	0	0	1	0	10.07	9.47	9.36	9.30	9.40	9.30	8.42	8.42
SMC379	SMC	16.50758333	-72.29033611	GDN	No	-7.7	G8	IV	0	0	2	0	9.77	9.29	9.19	9.08	9.14	9.05	9.00	9.00
SMC380	SMC	16.71375000	-72.93144167	GDN	No	55.2	K0	III	0	0	2	0	9.75	9.18	9.06	8.98	9.10	8.95	8.57	8.57
SMC381	SMC	16.75920833	-72.62244444	GDN	No	150.4	M1	Iab	0	0	2	0	11.08	10.17	9.94	9.79	9.87	9.53	8.66	8.66
SMC382	SMC	16.75962500	-72.59286389	GDN	No	214.9	G8	Iab	0	0	2	0	10.99	10.23	10.03	9.90	10.03	9.75	8.68	8.68
SMC383	SMC	16.77995833	-73.60688056	GDN	No	60.2	K1	V	0	0	2	0	10.18	9.69	9.56	9.50	9.58	9.48	9.13	9.13
SMC384	SMC	16.78512500	-72.51271111	GDN	No	44.6	K0.5	III-IV	0	0	2	0	9.28	8.73	8.63	8.55	8.64	8.52	8.66	8.66
SMC385	SMC	16.81462500	-72.63694722	GDN	No	9.7	K2.5	III-IV	0	0	2	0	8.49	7.87	7.71	7.59	7.73	7.62	7.53	7.53
SMC386	SMC	16.86412500	-73.20287222	GDN	No	5.5	K3.5	IV	0	0	2	0	8.21	7.52	7.36	7.22	7.42	7.29	7.31	7.31
SMC388	SMC	16.89550000	-73.40841667	GDN	No	21.7	K2	III	0	0	2	0	7.75	7.14	6.99	6.90	7.02	6.94	6.91	6.91
SMC389	SMC	16.89937500	-72.22850000	GDN	No	4.5	K4	III-IV	0	0	2	0	8.02	7.35	7.15	7.01	7.21	7.07	6.93	6.93
SMC390	SMC	16.91479167	-72.44594722	GDN	No	151.7	K5.5	Iab	0	0	2	0	9.91	9.13	8.93	8.81	8.91	8.54	8.36	8.36

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	v_{HEL}	SpT	LC ⁴	Epochs					2MASS			WISE			
									2010	2011	2012	2013	J	H	K _s	W1	W2	W3	W4	
SMC391	SMC	16.92954167	-72.20426111	GDN	No	-55.2	K2	III	0	0	2	0	9.55	8.88	8.72	8.62	8.75	8.58	8.45	
SMC392	SMC	16.95208333	-73.41575000	GDN	No	-9.1	G3	II-III	0	0	2	0	10.54	10.07	9.96	9.87	9.95	9.64	8.82	
SMC393	SMC	16.96895833	-72.17835278	GDN	No	142.8	K5	Ia-Iab	0	0	2	0	9.55	8.80	8.61	8.30	8.30	7.36	6.39	
SMC394	SMC	17.02829167	-73.01329722	GDN	No	41.2	G5.5	IV	0	0	2	0	7.47	7.05	6.88	6.85	6.89	6.87	6.84	
SMC395	SMC	17.10758333	-72.90870833	GDN	No	-5.2	G2	V	0	0	2	0	9.88	9.52	9.47	9.38	9.44	9.39	8.64	
SMC396	SMC	17.17958333	-72.12622778	GDN	No	15.9	K3	V	0	0	2	0	10.20	9.79	9.68	9.61	9.68	9.59	9.00	
SMC398	SMC	17.32458333	-72.76170278	GDN	-	152.1	K2	Iab-Ib	0	0	1	0	10.68	9.92	9.74	9.63	9.78	9.54	8.74	
SMC399	SMC	17.39600000	-72.19601389	GDN	No	10.9	G5.5	V	0	0	2	0	9.63	9.37	9.26	9.21	9.26	9.11	8.16	
SMC400	SMC	17.40908333	-73.33396111	GDN	-	199.8	M4	Iab	0	0	1	0	8.85	8.14	7.79	7.32	7.20	6.13	4.93	
SMC401	SMC	17.51612500	-72.61461667	GDN	-	150.2	M5	II-III	0	0	1	0	10.02	9.10	8.72	8.67	8.37	7.83	7.39	
SMC402	SMC	17.65258333	-72.30074167	GDN	No	31.0	G1	V	0	0	2	0	10.21	9.97	9.84	9.77	9.81	9.73	9.28	
SMC403	SMC	17.72404167	-72.58814167	GDN	No	-1.1	G7.5	II	0	0	2	0	8.29	7.74	7.61	7.47	7.64	7.53	7.53	
SMC404	SMC	17.74062500	-73.08715000	GDN	No	3.6	M0	V	0	0	2	0	10.19	9.53	9.32	9.25	9.27	9.16	9.04	
SMC405	SMC	17.74362500	-72.80958611	GDN	No	36.1	K3.5	III	0	0	2	0	10.60	9.94	9.78	9.70	9.85	9.66	9.15	
SMC406	SMC	17.81575000	-73.18058056	GDN	No	29.2	K0.5	III-IV	0	0	2	0	8.56	8.09	7.94	7.84	7.95	7.85	8.19	
SMC407	SMC	18.04512500	-72.47461667	GDN	No	38.8	F9	III-IV	0	0	2	0	9.89	9.61	9.58	9.54	9.58	9.52	8.79	
SXP4.78-A	SMC	13.12720833	-72.31910000	Massey	No	164.5	G6	Iab-Ib	2	0	0	0	11.81	11.09	10.96	10.86	10.97	10.80	9.12	
YSG001	SMC	8.62016667	-73.47200833	YSG	-	99.3	G6	IV	0	0	1	0	11.31	10.81	10.72	10.62	10.70	10.66	9.18	
YSG002	SMC	8.76354167	-73.54964444	YSG	-	141.3	G6	Ib-II	0	0	1	0	11.57	10.91	10.77	10.65	10.76	10.53	8.64	
YSG003	SMC	10.31691667	-72.53797222	YSG	-	207.8	G6	Iab	0	0	1	0	9.47	8.82	8.66	8.55	8.62	8.48	8.15	
YSG004	SMC	10.43104167	-73.72328333	YSG	-	110.5	G0	Iab	0	0	1	0	10.07	9.60	9.49	-	-	-	-	
YSG006	SMC	11.50995833	-73.35002778	YSG	-	137.4	G5	Iab	0	0	1	0	11.61	11.04	10.86	10.68	10.76	10.69	8.83	
YSG007	SMC	11.70758333	-73.23127778	YSG	-	110.2	K0	Iab-Ib	0	0	1	0	11.12	10.37	10.21	10.02	10.16	9.87	8.67	
YSG008	SMC	11.72108333	-72.71437778	YSG	-	150.0	G0	Iab	0	0	1	0	10.76	10.30	10.23	-	-	-	-	
YSG010	SMC	11.78608333	-73.23668611	YSG	-	128.0	G6.5	Ia-Iab	0	0	1	0	10.84	10.15	9.94	9.74	9.85	9.63	8.82	
YSG013	SMC	12.03975000	-72.35793333	YSG	-	162.1	G8	Iab	0	0	1	0	11.45	10.70	10.54	-	-	-	-	
YSG014	SMC	12.13245833	-72.98657222	YSG	-	127.0	G7	Ib	0	0	1	0	11.09	10.37	10.23	-	-	-	-	
YSG015	SMC	12.14650000	-72.36956111	YSG	-	182.2	G8	Iab	0	0	1	0	10.97	10.23	10.09	-	-	-	-	
YSG016	SMC	12.18929167	-72.92427778	YSG	-	144.3	G8	Iab	0	0	1	0	11.49	10.78	10.63	-	-	-	-	
YSG024	SMC	12.70662500	-72.69836389	YSG	-	121.3	G8.5	Ia-Iab	0	0	1	0	10.93	10.21	10.03	-	-	-	-	
YSG026	SMC	12.80691667	-72.55046667	YSG	-	150.4	G8	Ib	0	0	1	0	11.54	10.89	10.73	-	-	-	-	
YSG030	SMC	13.03350000	-72.28032778	YSG	-	162.0	K1	Ib	0	0	1	0	11.51	10.76	10.61	-	-	-	-	
YSG031	SMC	13.07941667	-73.15641667	YSG	-	137.9	G0	Iab	0	0	1	0	11.51	10.90	10.74	-	-	-	-	
YSG038	SMC	13.34837500	-72.78370000	YSG	-	159.4	G8	Iab	0	0	1	0	10.95	10.25	10.12	-	-	-	-	
YSG040	SMC	13.48575000	-72.91101111	YSG	-	145.6	G8	II	0	0	1	0	11.39	10.65	10.49	-	-	-	-	
YSG042	SMC	13.66229167	-72.35550833	YSG	-	150.6	G8	Ia-Iab	0	0	1	0	10.71	9.95	9.80	-	-	-	-	
YSG045	SMC	13.78933333	-72.51545833	YSG	-	150.9	G7.5	Iab	0	0	1	0	11.37	10.68	10.52	-	-	-	-	
YSG049	SMC	13.87575000	-72.48043889	YSG	-	160.9	G8	Ia-Iab	0	0	1	0	11.42	10.67	10.53	-	-	-	-	
YSG050	SMC	14.06329167	-71.87531944	YSG	-	155.7	K0	Iab	0	0	1	0	11.23	10.45	10.31	-	-	-	-	
YSG051	SMC	14.11008333	-73.47314444	YSG	-	168.2	K4	Ia-Iab	0	0	1	0	10.51	9.81	9.62	-	-	-	-	
YSG052	SMC	14.11541667	-73.50750000	YSG	-	164.4	G8	Iab	0	0	1	0	11.29	10.61	10.43	-	-	-	-	
YSG053	SMC	14.15145833	-72.44622778	YSG	-	148.0	G8.5	Ia-Iab	0	0	1	0	10.78	10.02	9.86	-	-	-	-	
YSG054	SMC	14.16345833	-73.01450278	YSG	-	83.4	K1.5	III	0	0	1	0	11.52	10.96	10.85	-	-	-	-	

Table A.1. continued.

ID ¹	Cloud	RA	Dec	Origin ²	Var. ³	ν_{HEL}	SpT	LC ⁴	Epochs				2MASS			W1	W2	W3	W4
									2010	2011	2012	2013	J	H	K _s				
YSG055	SMC	14.17870833	-71.98271944	YSG	–	165.4	G8	Ib	0	0	1	0	11.33	10.58	10.42	–	–	–	–
YSG056	SMC	14.26883333	-72.49452222	YSG	–	156.8	G6.5	Ib	0	0	1	0	11.56	10.91	10.74	–	–	–	–
YSG058	SMC	14.42245833	-72.63118056	YSG	–	148.8	G7	Ib	0	0	1	0	11.48	10.76	10.57	–	–	–	–
YSG060	SMC	14.48700000	-73.56210278	YSG	–	177.7	G1	Ia-Iab	0	0	1	0	10.54	9.96	9.84	–	–	–	–
YSG061	SMC	14.50966667	-72.10413333	YSG	–	149.9	K0	Ib	0	0	1	0	11.52	10.78	10.60	–	–	–	–
YSG065	SMC	14.72462500	-72.20133889	YSG	–	150.8	G8	Ia-Iab	0	0	1	0	10.82	10.09	9.93	–	–	–	–
YSG066	SMC	14.72795833	-72.84991389	YSG	–	192.3	G7	Iab	0	0	1	0	11.49	10.82	10.63	–	–	–	–
YSG069	SMC	14.99304167	-72.57191389	YSG	–	163.3	G8	Iab	0	0	1	0	11.36	10.62	10.46	–	–	–	–
YSG070	SMC	15.03991667	-72.56648889	YSG	–	157.3	K0	Ia-Iab	0	0	1	0	11.09	10.39	10.19	–	–	–	–
YSG071	SMC	15.13770833	-72.19137500	YSG	–	159.2	K0	Ib	0	0	1	0	11.43	10.69	10.52	–	–	–	–
YSG073	SMC	15.22250000	-72.48393889	YSG	–	166.3	G8	Iab	0	0	1	0	10.98	10.25	10.07	–	–	–	–
YSG075	SMC	15.33262500	-72.28452222	YSG	–	166.7	G7.5	Ia-Iab	0	0	1	0	11.41	10.75	10.60	–	–	–	–
YSG076	SMC	15.45620833	-72.09593889	YSG	–	193.2	G1	Iab	0	0	1	0	11.42	10.91	10.79	–	–	–	–
YSG078	SMC	15.84545833	-72.60350000	YSG	–	176.6	K0	Iab-Ib	0	0	1	0	11.12	10.36	10.23	–	–	–	–
YSG079	SMC	15.88658333	-72.41574167	YSG	–	156.2	G5.5	Iab	0	0	1	0	11.38	10.74	10.60	–	–	–	–
YSG081	SMC	15.95458333	-73.71235000	YSG	–	195.5	G4.5	Iab	0	0	1	0	11.46	10.83	10.68	–	–	–	–
YSG082	SMC	15.99516667	-72.38585000	YSG	–	143.7	G4	Iab	0	0	1	0	11.29	10.73	10.59	–	–	–	–
YSG084	SMC	16.35254167	-72.92480556	YSG	–	174.4	G8	Iab	0	0	1	0	10.95	10.24	10.08	–	–	–	–
YSG085	SMC	16.42091667	-72.35681944	YSG	–	196.5	G8	Ia-Iab	0	0	1	0	11.34	10.63	10.43	–	–	–	–
YSG091	SMC	17.55204167	-72.62528333	YSG	–	202.0	G8.5	Ia-Iab	0	0	1	0	10.99	10.30	10.11	–	–	–	–

(1) For stars that show spectral variability, different epochs are recorded as different entries.

(2) "GDN" labels our photometrically selected sample, "Massey" are taken from Massey (2003) and references therein, and "YSG" from Neugent et al. (2010).

(3) This column marks stars that show variability in our spectra, and so for stars with a single epoch is left blank.

(4) Luminosity class "C" is reserved for Carbon stars.